



**CONTRACT DOCUMENTS
FOR
PLAZA SAN PABLO ROADWAY IMPROVEMENTS PHASES 3 & 4
PROJECT**

CIP PROJECT NO. PSP – 3&4

**Bid Opening Date: February 22, 2017
Bid Opening Time: 2:00 p.m.**

Location of Bid Submittal:

**City Clerk
San Pablo City Hall
13831 San Pablo Avenue
San Pablo, CA 94806**

Approved By:

Barbara Hawkins

Date

**City of San Pablo
Public Works Contract Documents**

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NOTICE INVITING BIDS

1. **Bid Acceptance.** The City of San Pablo ("City"), will accept sealed bids for its Plaza San Pablo Roadway Improvements Phases 3 & 4 Project ("Project"), by or before February 22, 2017, at 2:00 p.m., at the City Clerk's office, located at 13831 San Pablo Avenue, Building #1, San Pablo, California, 94806 at which time the bids will be publicly opened and read aloud.

2. **Project Information.**

2.1 Location and Description. The Project is located at Subdivision 9331-Phases 3 and 4, and is described as follows:

The project consists of (but not limited to) demolition of existing concrete sidewalk, curb and gutter, AC Pavement, and select utilities; installation of new underground utilities, storm drain piping and inlets, sanitary sewer laterals, fine grading and placement of baserock, concrete sidewalk, curb and gutter, AC pavement, ADA ramps, signage and striping, bio-swales, landscaping and planting and irrigation system, installation of street lighting and other information indicated on the approved plans.

2.2 Time for Completion. The planned timeframe for commencement and completion of construction of the Project is: **84 Days**

3. **License and Registration Requirements.**

3.1 License. This Project requires a valid California contractor's license for the following classification(s): **Class A**

3.2 DIR Registration. City will not accept a Bid Proposal from or enter into the Contract with a bidder, without proof that the bidder and its Subcontractors are registered with the California Department of Industrial Relations ("DIR") to perform public work under Labor Code Section 1725.5, subject to limited legal exceptions.

4. **Contract Documents.** The plans, specifications, bid and contract documents for the Project ("Contract Documents") may be obtained from **Blue Print Express (BPXpress)** Reprographics & Document Management (510-559-8299), located at 4903 Central Avenue, Richmond, CA, for a nonrefundable payment of \$40. Documents can be viewed, ordered and downloaded at www.blueprintexpress.com/sanpablo. The bidder must be on the plan holder's list to submit a bid.

5. **Bid Proposal and Security.**

5.1 Bid Proposal Form. Each Bid must be submitted using the Bid Proposal form provided with the Contract Documents.

5.2 Bid Security. The Bid Proposal must be accompanied by bid security of ten percent of the maximum bid amount, in the form of a cashier's or certified check made payable to City, or a bid bond executed by a surety licensed to do business in the State of California on the Bid Bond form included with the Contract Documents. The bid security must guarantee that upon award of the bid, the bidder will execute the Contract and submit payment and performance bonds and insurance certificates as required by the Contract

Documents within ten days after issuance of the Notice of Contract, which is typically issued after a determination of the low bidder and prior to City Council award.

6. Prevailing Wage Requirements.

6.1 General. This Project is subject to the prevailing wage requirements applicable to the locality in which the Work is to be performed for each craft, classification or type of worker needed to perform the Work, including employer payments for health and welfare, pension, vacation, apprenticeship and similar purposes.

6.2 Rates. These prevailing rates are available online at <http://www.dir.ca.gov/DLSR>. Each Contractor and Subcontractor must pay no less than the specified rates to all workers employed to work on the Project. The schedule of per diem wages is based upon a working day of eight hours. The rate for holiday and overtime work must be at least time and one-half.

6.3 Compliance. The Contract will be subject to compliance monitoring and enforcement by the California Department of Industrial Relations, under Labor Code Section 1771.4.

- 7. Performance and Payment Bonds.** The successful bidder will be required to provide performance and payment bonds for 100% of the Contract Price.
- 8. Substitution of Securities.** Substitution of appropriate securities in lieu of retention amounts from progress payments is permitted under Public Contract Code Section 22300.
- 9. Subcontractor List.** Each bidder must submit the name, location of the place of business, California contractor license number and DIR registration number for each Subcontractor who will perform work or service or fabricate or install work for the prime contractor in excess of one-half of 1% of the bid price, using the Subcontractor List form included with the Contract Documents.
- 10. Instructions to Bidders.** Additional and more detailed information is provided in the Instructions to Bidders, which should be carefully reviewed by all bidders before submitting a Bid Proposal.

By: **Ted J. Denney, City Clerk**

Publication Date: 1) February 9 2017

END OF NOTICE INVITING BIDS

INSTRUCTIONS TO BIDDERS

Each Bid Proposal submitted to the City of San Pablo ("City") for its **Plaza San Pablo Roadway Improvements Phases 3 & 4 Project** ("Project") must be submitted in accordance with the following instructions and requirements:

1. Bid Submission.

1.1 General. Each bid ("Bid Proposal") must be signed, sealed and submitted to the City, using the form provided in the Contract Documents, by or before the date and time set forth in the Notice Inviting Bids, or as amended by subsequent addendum. Faxed or emailed Bid Proposals will not be accepted, unless otherwise specified. Late submissions will be returned unopened. The City reserves the right to postpone the date and time for receiving or opening bids. Each bidder is solely responsible for all of its costs to prepare and submit its bid and by submitting a bid waives any right to recover those costs from the City. The bid price(s) must include all costs to perform the Work as specified, including all indirect costs such as applicable taxes, insurance and field offices.

1.2 Bid Envelope. The envelope containing the sealed Bid Proposal and required attachments must be clearly labeled as follows:

BID PROPOSAL:
Plaza San Pablo Roadway Improvements Phases 3 & 4 Project
Project No. **PSP-3&4**
City of San Pablo
13831 San Pablo Avenue
San Pablo, California 94806
Attn: City Clerk

The envelope must also be clearly labeled, as follows, with the bidder's name, address, and its registration number with the California Department of Industrial Relations ("DIR") for bidding on public works contracts (Labor Code sections 1725.5 and 1771.1):

[Contractor company name]
[street address]
[city, state, zip code]
DIR Registration No: _____

Please note: If City is unable to confirm that the bidder's DIR registration is current, City must disqualify the bidder. (Labor Code section 1725.5).

- 2. Examination of Contract Documents and Project Site.** Each bidder is solely responsible for diligent and thorough review of the Contract Documents (as defined in the General Conditions), examination of Project site, and reasonable and prudent inquiry concerning known and potential site conditions prior to submitting a Bid Proposal. However, bidders should not enter onto City's property or the Project site without prior written authorization from City. Bidders are responsible for reporting any errors or omissions in the Contract Documents to City prior to submitting a Bid Proposal, subject to the limitations of Public Contract Code

Section 1104. City expressly disclaims responsibility for assumptions the bidder might draw from the presence or absence of information provided by City.

2.1 Soil and Subsurface Conditions. Soil and subsurface conditions vary widely throughout the City and may include groundwater just below grade, buried concrete foundations or structures, automotive parts, or industrial debris, to name a few. Soil types may include bedrock, rock, gravel, clay, silt, sand, loam, hardpack, Bay mud or other soil types, which may occur in varying combinations and proportions. Each bidder is solely responsible for taking reasonable steps to investigate and evaluate available information on soil and subsurface conditions at the Project site.

3. **Requests for Information.** Questions regarding the Project, the bid procedures or any of the Contract Documents must be submitted in writing to [Indy Chadha ichadha@park-eng.com](mailto:ichadha@park-eng.com) at least six City working days prior to the opening of bids. Questions submitted after such time may not receive a response.
4. **Addenda.** Any addenda issued prior to the bid opening shall constitute part of the Contract Documents. Subject to the limitations of Public Contract Code section 4104.5, City reserves the right to issue addenda prior to bid time. Bidders are responsible for maintaining and checking their email for notifications, addenda, or additional information from City or the City's bid service provider.
5. **Brand Designations and "Or Equal" Substitutions.** Any specification designating a material, product, thing, or service by specific brand or trade name, followed by the words "or equal," is intended only to indicate quality and type of item desired, and bidders may request use of any equal material, product, thing, or service. All data substantiating the proposed substitute as an "equal" item must be submitted with the written request for substitution. This provision does not apply to materials, products, things, or services that may lawfully be designated by a specific brand or trade name under Public Contract Code Section 3400(c).
 - 5.1 **Pre-Bid Requests.** Any request for substitution made before the Contract is awarded must be submitted to the City Engineer at least ten days before the opening of bids so that all interested bidders may be notified of any approved alternative.
 - 5.2 **Post-Award Requests.** After the Contract is awarded, Contractor may submit a substitution request within 14 days after the date of award of the Contract, or as specified in the Special Conditions.
6. **Bidders Interested in More Than One Bid.** No person, firm, or corporation may submit or be a party to more than one Bid Proposal unless alternate bids are specifically called for. However, a person, firm, or corporation that has submitted a subcontract proposal or quote to a bidder may submit subcontract proposals or quotes to other bidders, and may also submit a Bid Proposal as a prime contractor.
7. **Bid Proposal Form and Enclosures.** Each Bid Proposal must be completed in ink using the Bid Proposal form included in the Contract Documents. The Bid Proposal form should be fully completed without interlineations, alterations, or erasures. Any necessary corrections must be clear and legible, and must be initialed by the bidder's authorized representative. A Bid Proposal submitted with terms such as "negotiable," "will negotiate," or similar, will be considered non-

responsive. Each Bid Proposal must be accompanied by bid security, as set forth in Section 9 below, and by the completed Subcontractor List, and Non-Collusion Declaration using the forms included in the Contract Documents.

7.1 Subcontractor List. If Contractor is using Subcontractors to perform Work, the Bid Proposal must include the Subcontractor List form included in the Contract Documents. No more than **49%** of the Work may be performed by Subcontractors.

- 8. Authorization and Execution.** Each Bid Proposal must be signed by the bidder's authorized representative. A Bid Proposal submitted by a partnership must be signed in the partnership name by a general partner with authority to bind the partnership. A Bid Proposal submitted by a corporation must be signed with the legal name of the corporation, followed by the signature and title of two officers of the corporation with full authority to bind the corporation to the terms of the Bid Proposal, under California Corporation Code section 313.
- 9. Bid Security.** Each Bid Proposal must be accompanied by bid security of ten percent of the maximum bid amount, in the form of a cashier's check, a certified check, or a bid bond, using the form included in the Contract Documents, executed by a surety licensed to do business in the State of California, made payable to City. The bid security must guarantee that upon award of the bid, the bidder will execute and submit the Contract on the form included in the Contract Documents, will submit payment and performance bonds for one hundred percent 100% of the maximum Contract Price, and will submit the insurance certificates and endorsements as required by the Contract Documents within ten days after issuance of the Notice of Contract.
- 10. Withdrawal of Bid Proposals.** A Bid Proposal may not be withdrawn for a period of 90 days after the bid opening without forfeiture of the bid security, except as authorized for material error under Public Contract Code Section 5100 et seq.
- 11. Bid Protest.** Any bid protest must be in writing and received by the City Clerk's office, 13831 San Pablo Avenue, Building #1, San Pablo, California 94806, Fax: 510-237-9604, or email at [LehnyC @sanpabloca.gov](mailto:LehnyC@sanpabloca.gov) before 5:00 p.m., no later than three working days following bid opening (the "Bid Protest Deadline") and must comply with the following requirements:
 - 11.1 General.** Only a bidder who has actually submitted a Bid Proposal is eligible to submit a bid protest against another bidder. Subcontractors are not eligible to submit bid protests. A bidder may not rely on the bid protest submitted by another bidder, but must timely pursue its own protest. If required by City, the protesting bidder must submit a non-refundable fee in the amount specified by City, based upon City's reasonable costs to administer the bid protest. Any such fee must be submitted to City no later than the Bid Protest Deadline, unless otherwise specified.
 - 11.2 Protest Contents.** The bid protest must contain a complete statement of the basis for the protest and all supporting documentation. Material submitted after the Bid Protest Deadline will not be considered. The protest must refer to the specific portion or portions of the Contract Documents upon which the protest is based. The protest must include the name, address, email address, and telephone number of the person representing the protesting bidder if different from the protesting bidder.

11.3 Copy to Protested Bidder. A copy of the protest and all supporting documents must be concurrently transmitted by fax or by email, by or before the Bid Protest Deadline, to the protested bidder and any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest.

11.4 Response to Protest. The protested bidder may submit a written response to the protest, provided the response is received by City before 5:00 p.m., within two working days after the Bid Protest Deadline or after actual receipt of the bid protest, whichever is sooner (the "Response Deadline"). The response must include all supporting documentation. Material submitted after the Response Deadline will not be considered. The response must include the name, address, email address, and telephone number of the person representing the protested bidder if different from the protested bidder.

11.5 Copy to Protesting Bidder. A copy of the response and all supporting documents must be concurrently transmitted by fax or by email, by or before the Response Deadline, to the protesting bidder and any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest.

11.6 Exclusive Remedy. The procedure and time limits set forth in this section are mandatory and are the bidder's sole and exclusive remedy in the event of bid protest. A bidder's failure to comply with these procedures will constitute a waiver of any right to further pursue a bid protest, including filing a Government Code Claim or initiation of legal proceedings.

11.7 Right to Award. City reserves the right to award the Contract to the bidder it has determined to be the responsible bidder submitting the lowest responsive bid, and to issue a notice to proceed with the Work notwithstanding any pending or continuing challenge to its determination.

- 12. Rejection of Bids; Award of Contract.** City reserves the right, acting in its sole discretion, to waive immaterial bid irregularities, the right to accept or reject any and all bids, or to abandon the Project entirely. The Contract will be awarded, if at all, within 90 calendar days after opening of bids or as otherwise specified in the Special Conditions, to the responsible bidder that submitted the lowest responsive bid.
- 13. Bonds.** The successful bidder is required to submit payment and performance bonds as specified in the Contract Documents using the bond forms included in the Contract Documents. All required bonds must be calculated on the maximum total Contract price as awarded, including additive alternates, if applicable.
- 14. Supplemental Information.** In order to facilitate the City's due diligence, before recommending that Council award the Contract, City Staff may request additional information from one or more of the lowest bidders. Failure to timely comply with these requests may result in rejection of the bid as non responsive.
 - 14.1 Bidder's Questionnaire.** Within 48 hours following a request by City, a bidder must submit to the City a completed, signed Bidder's Questionnaire using

the form provided with the Contract Documents and including all required attachments.

- 14.2. Insurance and Bonding Capacity.** Within 48 hours following a request by City, a bidder must submit letters from a surety licensed to do business in California and an insurance underwriter, both of which must have a financial rating of A-7 or better. These letters must confirm that the surety has agreed to provide Contractor with the performance and payment bonds required by the Contract, and that the insurer will provide Contractor with the coverage required by the Contract.
- 15. License(s).** The successful bidder and its Subcontractor(s) must possess the California contractor's license(s) in the classification(s) required by law to perform the Work.
- 16. Ineligible Subcontractor.** Any Subcontractor who is ineligible to perform work on a public works project under Labor Code Sections 1777.1 or 1777.7 is prohibited from performing work on this Project.
- 17. DIR Registration.** City will not accept a Bid Proposal from or enter into the Contract with a bidder, without proof that the bidder and its Subcontractors are registered with the DIR to perform public work under Labor Code Section 1725.5, subject to limited legal exceptions.
- 18. Bid Schedule.** Bidders are required to fully complete the Bid Schedule form accompanying the Bid Proposal form with unit prices as indicated, and to submit the completed Bid Schedule with their Bid Proposal.
- 19. Incorrect Totals.** In the event a computational error for any bid item (base bid or alternate) results in an incorrect extended total for that item (far right column), the submitted base bid or bid alternate total will be adjusted to reflect the corrected amount (estimated quantity X unit cost), unless the cumulative amount of corrections changes the total of the base bid or bid alternate by more than five percent. In the event of a discrepancy between the actual total of the itemized or unit prices shown on the Bid Schedule for the base bid, and the amount entered as the base bid on the Bid Proposal form, the actual total of the itemized or unit prices shown on the Bid Schedule for the base bid will be deemed the base bid price. Likewise, in the event of a discrepancy between the actual total of the itemized or unit prices shown on the Bid Schedule for any bid alternate, and the amount entered for the alternate on the Bid Proposal form, the actual total of the itemized prices shown on the Bid Schedule for that alternate will be deemed the alternate price. Nothing in this provision is intended to prevent a bidder from requesting to withdraw its bid for material error under Public Contract Code Section 5100 et seq.
- 20. Estimated Quantities.** The quantities shown on the Bid Schedule are estimated and the actual quantities required to perform the Work may be greater or less than the estimated amount. The Contract Price will be adjusted to reflect the actual quantities required for the Work based on the itemized or unit prices provided in the Bid Schedule, with no allowance for anticipated profit for quantities that are deleted or decreased.

21. **Safety Orders.** Each bid must include a bid item for adequate sheeting, shoring, and bracing, or equivalent method, for the protection of life or limb, which comply with safety orders as required by Labor Code Section 6707.
22. **CALGreen's Construction and Demolition Requirements.** The Contractor must comply with CALGREEN's Construction and Demolition Requirements (<http://www.calrecycle.ca.gov/LGCentral/Library/CandDMone/Instrction/FAQ.htm>) and complete the City's Construction Waste Management Form.

END OF INSTRUCTIONS TO BIDDERS

BID PROPOSAL

Plaza San Pablo Roadway Improvements Phases 3 & 4 Project

_____ (“Bidder”) hereby submits this Bid Proposal to the City of San Pablo (“City”) for the above-referenced project (“Project”) in response to the Notice Inviting Bids and in accordance with the Contract Documents referenced therein.

1. **Base Bid.** Bidder proposes to perform and fully complete the Work for the Project as specified in the Contract Documents, within the time required for full completion of the Work, for the following price (“Base Bid”):
\$ _____.

2. **Addenda.** Bidder acknowledges receipt of the following addenda:

Addendum:	Date Received:	Addendum:	Date Received:
#01	_____	#05	_____
#02	_____	#06	_____
#03	_____	#07	_____
#04	_____	#08	_____

3. **Bidder’s Warranties.** By signing and submitting this Bid Proposal, Bidder warrants the following:
 - 3.1 **Examination of Contract Documents.** Bidder has thoroughly examined the Contract Documents, and represents that, to the best of Bidder’s knowledge there are no errors, omissions, or discrepancies in the Contract Documents subject to the limitations of Public Contract Code Section 1104.
 - 3.2 **Examination of Worksite.** Bidder has had the opportunity to examine the Worksite and local conditions at the Project location.
 - 3.3 **Bidder is Qualified.** Bidder is fully qualified to perform the Work.
 - 3.4 **Responsibility for Bid.** Bidder has carefully reviewed this Bid Proposal and is solely responsible for any errors or omissions contained in its completed Bid.
4. **Award of Contract.** By signing and submitting this Bid Proposal, Bidder agrees that within ten days following written notice from City staff regarding intent to recommend the City Council award the Contract to Bidder, and attaching a copy of the Contract form based on Bidder’s Bid Proposal, Bidder will do all of the following:
 - 4.1 **Execute Contract.** Execute and submit to City the Contract provided by City;
 - 4.2 **Submit Required Bonds.** Submit to City a payment bond and a performance bond, each for 100% of the Contract Price, using the bond forms provided and in accordance with the requirements of the Contract Documents; and
 - 4.3 **Insurance Requirements.** Submit to City the insurance certificate(s) and endorsement(s) as required by the Contract Documents.

5. **Bid Security.** As a guarantee that if awarded the Contract, it will perform its obligations under Section 4, above, Bidder is enclosing bid security in the amount of ten percent of its maximum bid amount in the following form:

_____ A cashier's check or certified check payable to City and issued by
_____ Bank in the amount of
\$_____.

_____ A bid bond, using the Bid Bond form included with the Contract Documents,
payable to City and executed by a surety licensed to do business in the State of
California.

This Bid Proposal is hereby submitted on _____, 20__:

s/ _____
Name and Title [print]

s/ _____
Name and Title [print]

Company Name License # and Classification

DIR Registration #

Address Phone

City, State, Zip Fax

____. **Iran Contracting Act.** Bidder certifies that it is not identified on a list created under the Iran Contracting Act, Public Contract Code 2200 et seq. (the "Act") as a person engaging in investment activities in Iran, as defined in the Act, or is otherwise expressly exempt under the Act.

END OF BID PROPOSAL

UPDATED BID SCHEDULE
Plaza San Pablo Roadway Improvements Phases 3 & 4
PROJECT NO. PSP – 3&4

This Bid Schedule must be completed in ink and must be included with the sealed Bid Proposal. The unit cost for each item must be inclusive of all costs, whether direct or indirect, including profit and overhead. The sum of all amounts entered in the "Extended Total Amount" column must be identical to the Base Bid price entered in Section 1 of the Bid Proposal Form. See Instructions to Bidders for further information.

BID ITEM NO.	ITEM DESCRIPTION	EST. QUANT.	UNIT	UNIT COST	EXTENDED TOTAL AMOUNT
1- GENERAL					
1.01	Mobilization	LS	1		
1.02	Clearing, Grubbing and Removal	LS	1		
1.03	Storm Water Pollution Prevention Plan	LS	1		
1.04	Traffic Control and Construction Area Signs	LS	1		
Subtotal	\$				
2- DEMOLITION					
2.01	Conc. Curb, Gutter, Dwy., Walk, Ramp & A.B	1,885	SF	\$	\$
2.02	Asphalt Concrete Curb	550	LF	\$	\$
2.03	Asphalt Concrete Pavement only (5" thick)	3,140	SF	\$	\$
2.04	Asphalt Concrete Pavement & Baserock	18,480	SF	\$	\$
2.05	Concrete Retaining Wall	2	LF	\$	\$
2.06	Street Light (Public & Private)	5	EA	\$	\$
Subtotal	\$				
3- EARTHWORK WITHIN PUBLIC RIGHT-OF-WAY/ACCESS EASEMENT					
3.01	Finish Grading	32,200	SF	\$	\$

3.02	Excavation & recompact on-site	1,300	CY	\$	\$
3.03	Import Select Fill Material	1,300	CY	\$	\$
3.04	Unsuitable Materials (Revocable)	100	CY	\$	\$
3.05	Erosion Control	1	LS		
Subtotal	\$				
4- STORM DRAINAGE					
4.01	Storm Drain Cleanout	4	EA	\$	\$
4.03	6" SDR-35 PVC Solid Pipe	225	LF	\$	\$
4.02	6" SDR- 35 Perforated PVC Pipe	120	LF	\$	\$
4.04	Roof Drain Repair/CO & connect to 6" SD	5	EA	\$	\$
Subtotal	\$				
5- SANITARY SEWER					
5.01	8" C900 PVC Sewer Lateral	41	LF	\$	\$
5.02	Tie Lateral Into Existing Manhole	1	EA	\$	\$
5.03	Extend SSCO to new sidewalk elevation	3	EA	\$	\$
5.04	Extend existing Sanitary Sewer Manhole Rim to new Pavement Elevation	1	EA	\$	\$
5.05	Sheeting, Shoring, Bracing (Excavations Deeper Than 5')	1	LS	\$	\$
Subtotal	\$				
6- STREET IMPROVEMENTS					
6.01	Std. Conc. Curb & 18" Gutter (Inc. Baserock)	360	LF	\$	\$
6.02	Standard Concrete Curb (Including Baserock)	954	LF	\$	\$

6.03	Perf. Concrete Curb & Gutter (Inc. Baserock)	101	LF	\$	\$
6.04	Bioswale/Perforated Concrete Curb	129	LF	\$	\$
6.05	Concrete Sidewalk (Including Baserock)	8,372	SF	\$	\$
6.06	Concrete Driveway (Including Baserock)	522	SF	\$	\$
6.07	Concrete Valley Gutter (Including Baserock)	798	SF	\$	\$
6.08	Hot Mix Asphalt Concrete (HMA)	514	TONS	\$	\$
6.09	Class 2 Agg. Base (beneath Asphalt Pavements)	1,170	TONS	\$	\$
6.10a	Pedestrian Ramp (Including Baserock) Type A	3	EA	\$	\$
6.10b	Pedestrian Ramp (Including Baserock) Type C	2	EA	\$	\$
6.11	Survey Street Monuments	3	EA	\$	\$
6.12	Guard Rail	124	LF	\$	\$
6.13	Vegetated Swale Concrete Check Dams	2	EA	\$	\$
6.14	Vegetated Swale Class 2 Permeable Rock	60	TONS	\$	\$
6.15	Slurry Seal	3030	SY	\$	\$
6.16	Roadway Striping and Signage	1	LS	\$	\$
Subtotal	\$				
7- LANDSCAPE					
7.1	2/3" River Rock	1	CY	\$	\$
7.2	Irrigation System (including controller, backflow, flow sensor, laterals and mainline)	1	LS	\$	\$
7.3	Landscaping Planting (including, but not limited to, planting, ground cover, mulch, trees,	1	LS	\$	\$

	soil preparation, soil amendment, bio-retention soil, soil testing)				
7.4	Landscape Maintenance – 120 Days	1	LS	\$	\$
Subtotal	\$				
8- JOINT TRENCH, ELECTRICAL SERVICE and GAS SERVICE					
8.1	Joint Trench (trenching, backfill)	1	LS	\$	\$
8.2	Vaults, Splice Boxes (Excavate Only)	1	LS	\$	\$
8.3	Vaults, Splice Boxes (Supply and Install)	1	LS	\$	\$
8.4	Conduits (Supply and Install)	1	LS	\$	\$
8.5	Electrical System	1	LS	\$	\$
8.6	Gas System	1	LS	\$	\$
8.7	Street Lighting	1	LS	\$	\$

TOTAL BASE BID: All items inclusive: \$ _____
 [Note: The amount entered as the "Total Base Bid" should be identical to the Base Bid amount entered in Section 1 of the Bid Proposal form.]

BIDDER NAME: _____

END OF BID SCHEDULE

SUBCONTRACTOR LIST

For each Subcontractor who will perform a portion of the Work in an amount in excess of one-half of 1% of the Bidder's total Contract Price,¹ the bidder must list a description of the work, the name of the Subcontractor, its California contractor license number, the location of its place of business and DIR registration number. In the far right column indicate the amount of the Work (in dollars) to be performed by each listed subcontractor. **Note to Bidders: Please print legibly. Illegible forms may be rejected.**

DESCRIPTION OF WORK	SUBCONTRACTOR NAME	CALIFORNIA CONTRACTOR LICENSE NO.	LOCATION OF BUSINESS	DIR REG. NO.	AMOUNT OF WORK
					\$
					\$
					\$
					\$
					\$
					\$
					\$
					\$
					\$
					\$
					\$
					\$
					\$
					\$

END OF SUBCONTRACTOR LIST

¹ For street or highway construction this requirement applies to any subcontract of \$10,000 or more.

NONCOLLUSION DECLARATION

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

The undersigned declares:

I am the _____ of _____, the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid and will not pay, any person or entity for such purpose.

This declaration is intended to comply with California Public Contract Code Section 7106 and Title 23 U.S.C Section 112.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____ [date], at _____ [city], _____ [state].

s/ _____

Name and Title [print]

END OF NONCOLLUSION DECLARATION

BID BOND

_____, ("Bidder") has submitted a bid, dated _____, 20____ ("Bid"), to the City of San Pablo ("City") for work on the **Plaza San Pablo Roadway Improvements Phases 3 & 4** Project ("Project"). Under this duly executed bid bond ("Bid Bond"), Bidder as Principal and _____, its surety ("Surety"), are bound to City as obligee in the penal sum of ten percent of the maximum amount of the Bid (the "Bond Sum"). Bidder and Surety bind themselves and their respective heirs, executors, administrators, successors and assigns, jointly and severally, as follows:

1. **General.** If Bidder is awarded the Contract for the Project, Bidder will enter into the Contract with the City in accordance with the terms of the Bid.
2. **Submittals.** Within ten days after City staff transmits the Contract to Bidder, as the apparent low bidder, for execution, Bidder must submit to City the following:
 - 2.1 **Contract.** The executed Contract, using the form transmitted by City;
 - 2.2 **Payment Bond.** A payment bond for 100% of the maximum Contract Price, executed by a surety licensed to do business in the State of California using the Payment Bond form included with the Contract Documents;
 - 2.3 **Performance Bond.** A performance bond for 100% of the maximum Contract Price, executed by a surety licensed to do business in the State of California using the Performance Bond form included with the Contract Documents; and
 - 2.4 **Insurance.** The insurance certificate(s) and endorsement(s) required by the Contract Documents, and any other documents required under the Instructions to Bidders.
3. **Enforcement.** If Bidder fails to execute the Contract and to submit the bonds and insurance certificates as required by the Contract Documents, Surety guarantees that Bidder forfeits the Bond Sum to City. Any notice to Surety may be given in the manner specified in the Contract and delivered or transmitted to Surety as follows:

Attn: _____
Address: _____
City/State/Zip: _____
Phone: _____
Fax: _____
Email: _____
4. **Duration; Waiver.** If Bidder fulfills its obligations under Section 2, above, then this obligation will be null and void; otherwise it will remain in full force and effect for 90 days following award of the Contract or until this Bid Bond is returned to Bidder, whichever occurs first. Surety waives the provisions of Civil Code Sections 2819 and 2845.

[Signatures are on the following page.]

This Bid Bond is entered into and effective on _____, 20_____.

SURETY:

s/ _____

Name: _____

Title: _____

(Attach Acknowledgement, Notary Seal, and Attorney-In-Fact Certificate)

CONTRACTOR:

s/ _____

Name: _____

Title: _____

END OF BID BOND

BIDDER'S QUESTIONNAIRE

PLAZA SAN PABLO ROADWAY IMPROVEMENTS PHASES 3 & 4 PROJECT

Within 48 hours following a request by City, a bidder must submit to the City a completed, signed Bidder's Questionnaire using this form provided with the Contract Documents and including all required attachments. The City may request this from one or more of the apparent low bidders following the bid opening, and may use the completed Questionnaire to evaluate a bidder's qualifications for this Project. The Questionnaire must be filled out completely, accurately, and legibly. Any errors, omissions, or misrepresentations in completion of the Questionnaire may be grounds for rejection of the bid or termination of a Contract awarded pursuant to the bid.

Part 1: General Information

Contractor Name: _____ ("Contractor")

Check One: ☐ Corporation
 ☐ Partnership
 ☐ Sole Proprietorship
 ☐ Joint Venture of: _____
 ☐ Other: _____

Address: _____

Phone: _____

Fax/Email: _____

Owner of Company: _____

Contact Person: _____

Contractor's License Number(s): _____

Part 2: Bidder Experience

1. How many years has Bidder been in business under its present business name?

2. Has Bidder completed projects similar in type and size to this Project as a general contractor?

3. Has Bidder ever been disqualified on grounds that it is not responsible? If yes, provide additional information on a separate sheet of paper regarding the disqualification, including the name and address of the agency or owner of the subject project, the type and size of the project, the reasons that Bidder was disqualified as not responsible, and the month and year in which the disqualification occurred.

4. Has Bidder ever been terminated from a construction project, either as a general contractor or as a subcontractor? If yes, provide additional information on a separate sheet of paper regarding the termination, including the name and address of the agency or owner of the subject project, the type and size of the project, whether Bidder was under contract as a general contractor or a subcontractor, the reasons that Bidder was terminated, and the month and year in which the termination occurred.

5. Has Bidder ever had its contractor's license revoked? If yes, provide additional information on a separate sheet of paper regarding the date and circumstances if any revocation.

6. Has Bidder filed for bankruptcy within the past five years? If yes, provide additional information on a separate sheet of paper regarding the date and circumstances.

7. Provide information about Bidder's past projects performed as general contractor as follows:

7.1 Any project which is similar to this Project. Projects which include specific experience similar to this project within the last three (3) years will receive the most consideration; and

7.2 Six (6) most recently completed public works projects within the last three (3) years; and

7.3 Three (3) largest completed projects within the last three (3) years.

8. Use separate sheets of paper provide all of the following information for each project identified in response to the above three categories:

- 8.1 Project Name
- 8.2 Location
- 8.3 Owner
- 8.4 Owner Contact (name and current phone number)
- 8.5 Architect or Engineer Name
- 8.6 Architect or Engineer Contact (name and current phone number)
- 8.7 Project Manager (name and current phone number)
- 8.8 Description of Project, Scope of Work Performed
- 8.9 Initial Contract Value (at time of bid award)
- 8.10 Final Cost of Construction (including change orders)
- 8.11 Original Scheduled Completion Date
- 8.12 Time Extensions Granted (number of days)
- 8.13 Actual Date of Completion
- 8.14 Number and amount of Stop Notices or Mechanic's Liens filed
- 8.15 Amount of liquidated damages assessed against Contractor
- 8.16 Nature and resolution of any claim, lawsuit, and/or arbitration between Contractor and the owner

Part 3: Verification

In signing this document, I, the undersigned, declare that I am duly authorized to sign and submit this Bidder's Questionnaire on behalf of the named Bidder, and that all responses and information set forth in this Bidder's Questionnaire and accompanying attachments are, to the best of my knowledge, true, accurate and complete as of the date of submission. **I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.**

Signature: _____ Date: _____

By [name, title]: _____

For [name of Bidder]: _____

END OF BIDDER'S QUESTIONNAIRE

CONTRACT

This public works contract ("Contract") is entered into by and between the City of San Pablo ("City") and _____ ("Contractor") for work on the Plaza San Pablo Roadway Improvements Phases 3 & 4 Project ("Project").

The parties agree as follows:

1. **Award of Contract.** In response to the Notice Inviting Bids, Contractor has submitted a Bid Proposal to perform work on the Project, and on **<Date>**, 2016, City authorized award of this Contract to Contractor for the amount of Contractor's bid.
2. **Contract Documents.** The Contract Documents incorporated into this Contract include and are comprised of all of the following:
 - 2.1 Notice Inviting Bids;
 - 2.2 Instructions to Bidders;
 - 2.3 Addenda, if any;
 - 2.4 Bid Proposal and attachments thereto;
 - 2.5 Contract;
 - 2.6 Payment and Performance Bonds;
 - 2.7 General Conditions;
 - 2.8 Special Conditions;
 - 2.9 Project Drawings and Specifications;
 - 2.10 Change Orders, if any;
 - 2.11 City Standard Details (available on the City's website);
 - 2.12 Notice of Contract;
 - 2.13 Notice to Proceed;
 - 2.14 Caltrans Most Up to Date Standard Specifications
3. **Contractor's Obligations.** Contractor agrees to perform all of the Work required for the Project, as specified in the Contract Documents. Contractor must provide, furnish, and supply all things necessary and incidental for the timely performance and completion of the Work, including all necessary labor, materials, equipment, transportation, and utilities, unless otherwise specified in the Contract Documents. Contractor must use its best efforts to complete the Work in a professional and expeditious manner and to meet or exceed the performance standards required by the Contract Documents.
4. **Payment.** As full and complete compensation for Contractor's timely performance and completion of the Work in strict accordance with the terms and conditions of the Contract Documents, City will pay Contractor **<Contract Price in words>**Dollars (\$**<Contract Price in numbers>**) (the "Contract Price"), in accordance with the payment provisions in the General Conditions.
5. **Time for Completion.** Contractor will fully complete the Work for the Project within 84 working days from the commencement date given in the Notice to Proceed ("Contract Time"). By signing below, Contractor expressly waives any claim for delayed early completion.
6. **Liquidated Damages.** If Contractor fails to complete the Work within the Contract Time, City will assess liquidated damages in the amount of **One Thousand Two Hundred and Fifty Dollars (\$1,250)** for each day of unexcused delay in completion, and the Contract Price shall be reduced accordingly. If the contractor fails to provide submittals within time limits specified in the Contract Documents, the City may assess liquidated damages in the

amount of of **One Thousand Two Hundred and Fifty Dollars (\$1,250)** for each day after notice to contractor.

7. Labor Code Compliance.

7.1 General. This Contract is subject to all applicable requirements of Chapter 1 of Part 7 of Division 2 of the Labor Code, including requirements pertaining to wages, working hours and workers' compensation insurance.

7.2 Prevailing Wages. This Project is subject to the prevailing wage requirements applicable to the locality in which the Work is to be performed for each craft, classification or type of worker needed to perform the Work, including employer payments for health and welfare, pension, vacation, apprenticeship and similar purposes. Copies of these prevailing rates are available online at <http://www.dir.ca.gov/DLSR>.

7.3 DIR Registration. City will not enter into the Contract with a bidder without proof that the bidder and its Subcontractors are registered with the California Department of Industrial Relations ("DIR") to perform public work under Labor Code Section 1725.5, subject to limited legal exceptions.

8. Workers' Compensation Certification. Under Labor Code Section 1861, by signing this Contract, Contractor certifies as follows: "I am aware of the provisions of Labor Code Section 3700 which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the Work on this Contract."

9. Notice. Any notice, billing, or payment required by the Contract Documents must be made in writing, and sent to the other party by personal delivery, U.S. Mail, a reliable overnight delivery service, facsimile, or by email as a PDF (or comparable) file. Notice is deemed effective upon delivery unless otherwise specified. Notice for each party must be given as follows:

	City	Contractor
Name	City of San Pablo	
Address	13831 San Pablo Avenue	
City/state/zip	San Pablo, California 94806	
Phone	(510) 215-3060	
Fax	(510) 215-3013	
Attn:	City Clerk	
Email	ichadha@park-eng.com	
Copy to:	Barbara Hawkins, City Engineer BarbaraH@sanpabloca.gov	

10. General Provisions.

10.1 Assignment and Successors. Contractor may not assign its rights or obligations under this Contract, in part or in whole, without City's written consent. This Contract is binding on Contractor's successors and permitted assigns.

10.2 Third Party Beneficiaries. There are no intended third party beneficiaries to this Contract except as expressly provided in the General Conditions or Special Conditions.

- 10.3 Governing Law and Venue.** This Contract will be governed by California law and venue will be in the Superior Court of Contra Costa County, and no other place.
- 10.4 Amendment.** No amendment or modification of this Contract will be binding unless it is in a writing duly authorized and signed by the parties to this Contract.
- 10.5 Integration; Severability.** This Contract and the Contract Documents incorporated herein, including authorized amendments or Change Orders thereto, constitute the final, complete, and exclusive terms of the agreement between City and Contractor. If any provision of the Contract Documents, or portion of a provision, is determined to be illegal, invalid, or unenforceable, the remaining provisions of the Contract Documents will remain in full force and effect.
- 10.6 Authorization.** Each individual signing below warrants that he or she is authorized to do so by the party that he or she represents, and that this Contract is legally binding on that party. If Contractor is a corporation, signatures from two officers of the corporation are required pursuant to California Corporation Code Section 313.

[Signatures are on the following page.]

The parties agree to this Contract as witnessed by the signatures below:

CITY:

Approved as to form:

City of San Pablo

s/ _____
Matt Rodriguez
City Manager

s/ _____
Lynn Tracy Nerland
City Attorney

Date: _____

Date: _____

Attest:

s/ _____
Ted Denney
City Clerk

Date: _____

CONTRACTOR:

s/ _____

Name/Title [print]

Date: _____

s/ _____

Name/Title [print]

Date: _____

Contractor's Calif. License Number(s)

Seal:

Expiration Date(s)

END OF CONTRACT

PAYMENT BOND

The City of San Pablo ("City") and _____
("Contractor") have entered into a contract, dated _____, 20 ____ ("Contract") for work on
the **Plaza San Pablo Roadway Improvements Phases 3 & 4** Project ("Project"). The Contract
is incorporated by reference into this Payment Bond ("Bond").

1. **General.** Under this Bond, Contractor as principal and _____
_____, its surety ("Surety"), are bound to City as obligee in an
amount not less than (\$ _____) ("Bond Sum"), under California Civil Code
Sections 9550, et seq.
2. **Surety's Obligation.** If Contractor or any of its Subcontractors fails to pay any of the
persons named in California Civil Code Section 9100 amounts due under the
Unemployment Insurance Code with respect to work or labor performed under the
Contract, or for any amounts required to be deducted, withheld, and paid over to the
Employment Development Department from the wages of employees of the Contractor and
its Subcontractors, under California Unemployment Insurance Code Section 13020, with
respect to the work and labor, then Surety will pay for the same.
3. **Beneficiaries.** This Bond inures to the benefit of any of the persons named in California
Civil Code Section 9100, so as to give a right of action to those persons or their assigns in
any suit brought upon this Bond. Contractor must promptly provide a copy of this Bond
upon request by any person with legal rights under this Bond.
4. **Duration.** If Contractor promptly makes payment of all sums for all labor, materials, and
equipment furnished for use in the performance of the Work required by the Contract, in
conformance with the time requirements set forth in the Contract and as required by
California law, Surety's obligations under this Bond will be null and void. Otherwise,
Surety's obligations will remain in full force and effect.
5. **Waivers.** Surety waives any requirement to be notified of alterations to the Contract or
extensions of time for performance of the Work under the Contract. Surety waives the
provisions of Civil Code Sections 2819 and 2845. City waives requirement of a new bond
for any supplemental contract under Civil Code Section 9550. Any notice to Surety may be
given in the manner specified in the Contract and delivered or transmitted to Surety as
follows:

Attn: _____
Address: _____
City/State/Zip: _____
Phone: _____
Fax: _____
Email: _____

6. **Law and Venue.** This Bond will be governed by California law, and any dispute pursuant
to this Bond will be venued in the Superior Court of Contra Costa County, and no other
place. Surety will be responsible for City's attorneys' fees and costs in any action to
enforce the provisions of this Bond.

7. **Effective Date; Execution.** This Bond is entered into and is effective on _____, 20_____. Three identical counterparts of this Bond, each of which is deemed an original for all purposes, are hereby executed and submitted.

SURETY:

s/ _____

Name: _____

Title: _____

(Attach Acknowledgment with Notary Seal and Power of Attorney)

CONTRACTOR:

s/ _____

Name: _____

Title: _____

END OF PAYMENT BOND

PERFORMANCE BOND

The City of San Pablo ("City") and

_____ ("Contractor") have entered into a contract, dated _____, 20____ ("Contract") for work on the **Plaza San Pablo Roadway Improvements Phases 3 & 4** Project ("Project"). The Contract is incorporated by reference into this Performance Bond ("Bond").

1. **General.** Under this Bond, the Contractor as Principal and _____, its surety ("Surety"), are bound to City as obligee for an amount not less than Dollars (\$_____) (the "Bond Sum"). By executing this Bond, Contractor and Surety bind themselves and their respective heirs, executors, administrators, successors and assigns, jointly and severally, to the provisions of this Bond.
2. **Surety's Obligations; Waiver.** If Contractor fully performs its obligations under the Contract, including its warranty obligations under the Contract, Surety's obligations under this Bond will become null and void upon recordation of the notice of completion, provided Contractor has timely provided a warranty bond as required under the Contract. Otherwise Surety's obligations will remain in full force and effect until expiration of the one year warranty period under the Contract. Surety waives any requirement to be notified of and further consents to any alterations to the Contract made under the applicable provisions of the Contract Documents, including changes to the scope of Work or extensions of time for performance of Work under the Contract. Surety waives the provisions of Civil Code Sections 2819 and 2845.
3. **Application of Contract Balance.** Upon making a demand on this Bond, City will make the Contract Balance available to Surety for completion of the Work under the Contract. For purposes of this provision, the Contract Balance is defined as the total amount payable by City to the Contractor as the Contract Price minus amounts already paid to Contractor, and minus any liquidated damages, credits, or backcharges to which City is entitled under the terms of the Contract.
4. **Contractor Default.** Upon written notification from City that Contractor is in default under Article 13 of the Contract General Conditions, time being of the essence, Surety must act within the time specified in Article 13 to remedy the default through one of the following courses of action:
 - 4.1 Arrange for completion of the Work under the Contract by Contractor, with the City's consent, but only if Contractor is in default solely due to its financial inability to complete the Work;
 - 4.2 Arrange for completion of the Work under the Contract by a qualified contractor acceptable to City, and secured by performance and payment bonds issued by an admitted surety as required by the Contract Documents, at Surety's expense, or
 - 4.3 Waive its right to complete the Work under the Contract and reimburse City the amount of City's costs to have the remaining Work completed.
5. **Surety Default.** If Surety defaults on its obligations under the Bond, City will be entitled to recover all costs it incurs due to Surety's default, including legal, design professional, or delay costs.

6. **Notice.** Any notice to Surety may be given in the manner specified in the Contract and delivered or transmitted to Surety as follows:

Attn: _____
Address: _____
City/State/Zip: _____
Phone: _____
Fax: _____
Email: _____

7. **Law and Venue.** This Bond will be governed by California law, and any dispute pursuant to this Bond will be venued in the Superior Court for Contra Costa County, and no other place. Surety will be responsible for City's attorneys' fees and costs in any action to enforce the provisions of this Bond.
8. **Effective Date; Execution.** This Bond is entered into and effective on _____, 20____. Three identical counterparts of this Bond, each of which is deemed an original for all purposes, are hereby executed and submitted.

SURETY:

s/ _____

Name: _____

Title: _____

(Attach Acknowledgment with Notary Seal and Power of Attorney)

CONTRACTOR:

s/ _____

Name: _____

Title: _____

END OF PERFORMANCE BOND

WARRANTY BOND

The City of San Pablo ("City") and _____
("Contractor") have entered into a contract, dated _____, 20____ ("Contract") for work
on the **Plaza San Pablo Roadway Improvements Phases 3 & 4** Project ("Project"). The
Contract is incorporated by reference into this Warranty Bond ("Bond").

1. **General.** Under this Bond, Contractor as principal and _____,
its surety
("Surety"), are bound to City as obligee in the maximum amount of 15% of the final
Contract Price
2. **Warranty Period.** The Contract requires Contractor to guarantee its work and that of its
Subcontractors on the Project, against defects in materials or workmanship which are
discovered during the one year period commencing with recordation of the Notice of
Completion (the "Warranty Period").
3. **Surety's Obligations.** If Contractor faithfully carries out and performs its guarantee under
the Contract, and, on due notice from City, repairs and make good at its sole expense any
and all defects in materials and workmanship in the Project which are discovered during the
Warranty Period, or if Contractor promptly reimburses City for all loss and damage that City
sustains because of Contractor's failure to makes such repairs in accordance with the
Contract requirements, then Surety's obligations under this Bond will be null and void.
Otherwise, Surety's obligations will remain in full force and effect.
4. **Waiver.** Surety waives the provisions of Civil Code Sections 2819 and 2845.
5. **Notice.** Any notice to Surety may be given in the manner specified in the Contract and
delivered or transmitted to Surety as follows:

Attn: _____
Address: _____
City/State/Zip: _____
Phone: _____
Fax: _____
Email: _____
6. **Law and Venue.** This Bond will be governed by California law, and any dispute pursuant to
this Bond will be venued in the Superior Court for Contra Costa County, and no other place.
Surety will be responsible for City's attorneys' fees and costs in any action to enforce the
provisions of this Bond.
7. **Effective Date; Execution.** This Bond is entered into and is effective on _____,
20_____. Three identical counterparts of this Bond, each of which is deemed an
original for all purposes, are hereby executed and submitted.

[Signatures are on the following page.]

SURETY:

s/ _____

Name: _____

Title: _____

(Attach Acknowledgment with Notary Seal and Power of Attorney)

CONTRACTOR:

s/ _____

Name: _____

Title: _____

END OF WARRANTY BOND

GENERAL CONDITIONS

Article 1 Definitions

1.1 Definitions. The following definitions apply to all of the Contract Documents unless otherwise indicated. Defined terms and titles of documents are capitalized in the Contract Documents, with the exception of the words “day,” “furnish,” “including,” “install,” “work day” or “working day.”

Allowance means an amount included in the Bid Proposal for Work that may or may not be included in the Project, depending on conditions that will not become known until after bids are opened. If the Contract Price includes an Allowance and the cost of performing the Work covered by that Allowance is greater or less than the Allowance, the Contract Price will be increased or decreased accordingly.

Article, as used in these General Conditions, means a numbered Article of the General Conditions, unless otherwise indicated by the context.

Change Order means a written document duly approved and executed by City, which changes the scope of Work, the Contract Price, or the Contract Time.

City means the City of San Pablo, which has entered into the Contract with Contractor for performance of the Work, acting through its City Council, officers, employees, and authorized representatives.

Claim means a separate demand by Contractor for change in the Contract Time or Contract Price, that has previously been submitted to City in accordance with the requirements of the Contract Documents, and which has been rejected by City, in whole or in part; or a written demand by Contractor objecting to the amount of Final Payment.

Contract means the signed agreement between City and Contractor.

Contract Documents means, collectively, all of the documents listed as such in Section 2 of the Contract, including the Notice Inviting Bids; the Instructions to Bidders; addenda, if any; the Bid Proposal, and attachments thereto; the Contract; the Notice of Contract and Notice to Proceed; the payment and performance bonds; the General Conditions; the Special Conditions; the Project Drawings and Specifications; any Change Orders; and any other documents expressly made part of the Contract Documents.

Contract Price means the total compensation to be paid to the Contractor for performance of the Work, as set forth in the Contract and as amended by Change Order or adjusted for an Allowance. The Contract Price is not subject to adjustment due to inflation or due to the increased cost of labor, material, or equipment following submission of the Bid Proposal.

Contract Time means the number of calendar days for performance of the Work, as set forth in the Contract and as amended by Change Order.

Contractor means the individual, partnership, corporation, or joint-venture who has signed the Contract with City to perform the Work.

Day means a calendar day unless otherwise specified.

Design Professional means the licensed individual(s) or firm(s) retained by City to provide architectural or engineering services for the Project. If no Design Professional has been retained for this Project, any reference to Design Professional is deemed to refer to the Engineer.

Drawings means the City-provided plans and graphical depictions of the Project requirements, and does not include Shop Drawings.

Engineer means the City Engineer for the City of San Pablo and his or her authorized delegee(s).

Final Completion means the Contractor has fully completed all of the Work required by the Contract Documents, including all punch list items, any required commissioning, and has provided all required submittals, including the warranty bond, instructions and manuals, and as-built drawings to the City's satisfaction.

Final Payment means payment to Contractor of the unpaid Contract Price, including release of undisputed retention, less amounts withheld pursuant to the Contract Documents, including liquidated damages, up to 125% of the amount of any unreleased stop notice, amounts subject to setoff, up to 150% of any unresolved third-party claim for which Contractor is required to indemnify City, and up to 150% of any amount in dispute as authorized by Public Contract Code Section 7107.

Furnish means to purchase and deliver to the Worksite designated for installation.

Hazardous Materials means any substance or material identified now or in the future as hazardous under any federal, state, or local law or regulation, or any other substance or material that may be considered hazardous or otherwise subject to statutory or regulatory requirements governing handling, disposal, or cleanup.

Including, whether or not capitalized, means "including, but not limited to," unless the context requires otherwise.

Inspector means the individual(s) or firm(s) retained by City to inspect the workmanship, materials, and manner of construction of the Project and its components to ensure compliance with the Contract Documents and all applicable codes, regulations, and permits.

Install means to fix in place for materials, and to fix in place and connect for equipment.

Notice of Contract means a document notifying the Contractor of City staff intent to recommend that the San Pablo City Council award the Contract to the Contractor as the lowest responsible bidder. The Notice is typically issued after a determination of the low bidder and prior to City Council award.

Plans has the same meaning as Drawings.

Project means the public works project referenced in the Contract.

Project Manager means the individual designated by City to oversee and manage the Project on City's behalf and may include his or her authorized delegee(s) when the Project Manager is unavailable. If no Project Manager has been designated for this Project, any reference to Project Manager is deemed to refer to the Engineer.

Section as used in these General Conditions, means a numbered Section of the General Conditions, unless otherwise indicated by the context.

Shop Drawings means drawings, plan details or other graphical depictions prepared by or on behalf of Contractor, and subject to City approval, which are intended to provide details for fabrication, installation, and the like, of items required by or shown in the Drawings and Specifications.

Specifications means the technical, text specifications describing the Project requirements, which are prepared for and incorporated into this Project by or on behalf of City, and does not include the Contract, General Conditions or Special Conditions.

Subcontractor means an individual, partnership, corporation, or joint-venture retained by Contractor directly or indirectly through a subcontract to perform a specific portion of the Work. The term Subcontractor applies to subcontractors, suppliers, fabricators, and equipment lessors of all tiers, unless otherwise indicated by the context.

Technical Specifications means Specifications.

Work means all of the construction and services necessary or incidental to completing the Project in conformance with the requirements of the Contract Documents.

Work Day or Working Day, whether or not capitalized, means a weekday which is not a holiday observed by City.

Worksite means the place or places where the Work is performed.

Article 2 Roles and Responsibilities

2.1 Design Professional.

(A) **General.** Design Professional, as the City's representative, is responsible for the overall design of the Project, and to the extent authorized by City, may act on City's behalf to ensure performance of the Work in compliance with the Contract Documents.

(B) **Interpretation.** Design Professional will decide all questions pertaining to interpretation of the Drawings or Specifications. The Design Professional's decision regarding interpretation of the Drawings or Specifications is final and conclusive.

2.2 Contractor.

(A) **General.** Contractor must provide all labor, materials, equipment and services necessary to perform and timely complete the Work in strict accordance with the Contract Documents, and in an economic and efficient manner in the best interests of City.

(B) **Responsibility for the Work.** Contractor is responsible for supervising and directing all aspects of the Work to facilitate the efficient and timely completion of the Work. Contractor is solely responsible for, and required to exercise full control over, construction means, methods, techniques, sequences, procedures, and coordination of all portions of the Work with that of all other Contractors and Subcontractors, except to the extent that the Contract Documents provide other specific instructions.

(C) **Project Administration.** Contractor must provide sufficient and competent administration, staff, and skilled workforce necessary to perform and timely complete the Work in accordance with the Contract Documents.

(1) Before starting the Work, Contractor must designate in writing and provide complete contact information, including phone numbers and email address, for the officer or employee in Contractor's organization who is to serve as Contractor's primary representative for the Project, and who has authority to act on Contractor's behalf. A Subcontractor may not serve as Contractor's primary representative.

(2) Contractor must attend a pre-construction conference within eight days following award of the Contract, or as otherwise specified by the City. If requested by City, Contractor's superintendent and foreman and Subcontractor representatives must also attend the pre-construction conference.

(3) Contractor shall begin work as directed in the written Notice to Proceed, which shall specify a mutually-agreed upon first day of work. If the parties cannot so agree, the first day of work shall be 7 calendar days after contractor has received the Notice to Proceed. Contractor is only authorized to begin operations after the contract is fully executed and Notice to Proceed is issued.

(4) In no case will the contractor be allowed to begin work before the pre-construction conference is held.

(D) **On-Site Superintendent.** Contractor must, at all times during performance of the Work, provide a qualified and competent full-time superintendent, acceptable to City, and assistants, as necessary, who must be physically present at the Project site while any aspect of the Work is being performed. Failure to comply may result in temporary suspension of the Work, at Contractor's sole expense and with no extension of Contract Time, until the superintendent is physically present to supervise the Work. Contractor must provide written notice to City, as soon as practicable, before replacing the superintendent.

(E) **Standards; Compliance.** Contractor must, at all times, ensure that the Work is performed in a good workmanlike manner following best practices and in full compliance with the Contract Documents and all applicable laws, regulations, codes, standards, and permits. Under circumstances where more than one requirement or standard applies to a component of the Work, the most stringent standard, as determined by the Engineer, is to be applied.

(F) **Responsible Party.** Contractor is solely responsible to City for the acts or omissions of any party or parties performing portions of the Work or providing equipment, materials or services for or on behalf of Contractor or its Subcontractors.

(G) **Correction of Defects.** Contractor must promptly correct, at Contractor's sole expense, any Work that is determined by City, Project Manager, or the Inspector to be deficient or defective in workmanship, materials, and equipment.

(H) **Daily Reports.** Contractor must prepare a daily report to document the progress of the Work on a daily basis. Each daily report must account for all Work performed that day, including all labor, all equipment on site, and all Subcontractors. The daily report must clearly distinguish between Work included in the base bid, Work performed under a Change Order, and disputed Work; and must identify any circumstances affecting timely progress of the Work, e.g., weather or soil conditions, availability of materials, supplies and equipment and the like. Contractor must submit a copy of each daily report to the Project Manager within five days of the date of the report.

(I) **Contractor's Records.** Contractor must maintain all of its records relating to the Project in any form, including paper documents, photos, videos and electronic records.

Project records subject to this provision include, but are not limited to, daily reports, Project cost records and records relating to preparation of Contractor's bid.

- (1) Contractor's cost records must include all supporting documentation, including original receipts, invoices, and payroll records, evidencing its direct costs to perform the Work, including, but not limited to, costs for labor, materials and equipment. Each cost record should include, at a minimum, a description of the expenditure with references to the applicable requirements of the Contract Documents, the amount actually paid, the date of payment, and whether the expenditure is part of the original Contract Price, related to an executed Change Order, or otherwise categorized by Contractor as extra work. Contractor's failure to comply with this provision as to any claimed cost operates as a waiver of any rights to recover the claimed cost.
 - (2) Contractor must continue to maintain its Project records in an organized manner for a period of four years after City's acceptance of the Project or following termination, whichever occurs first. Subject to prior notice to Contractor, City is entitled to inspect or audit any of Contractor's Project records relating to the Project or to investigate Contractor's plant or equipment during Contractor's normal business hours.
- (J) **Local Preference.** Contractor will use materials, equipment and supplies from local vendors when the price, fitness and quality are equal to those available elsewhere. Contractor will have workers from within the City when they have the skill and ability equal to workers available elsewhere.
- (K) **Permits and Licenses.** Contractor is responsible for timely obtaining at Contractor's sole expenses, and permits or licenses required to perform the Work, unless otherwise specified in the special conditions.

2.3 Subcontractors.

- (A) **General.** All Work must be performed by Contractor's own forces except for the portion of Work allowed to be performed by Subcontractors listed in the Instructions to Bidders, if any. All Work which is not performed by Contractor with its own forces must be performed by Subcontractors. City reserves the right to approve or reject any and all Subcontractors proposed to perform the Work.
- (B) **Contractual Obligations.** Contractor must require every Subcontractor to be bound to the provisions of the Contract Documents as they apply to the Subcontractor's portion(s) of the Work, and to likewise bind their subcontractors or suppliers. Nothing in these Contract Documents creates a contractual relationship between a Subcontractor and City, but City is deemed to be a third-party beneficiary of the contract between Contractor and each Subcontractor.
- (C) **Termination.** If the Contract is terminated, each Subcontractor's agreement must be assigned by Contractor to City, subject to the prior rights of any surety, provided that the City accepts the assignment by written notification, and assumes all rights and obligations of Contractor pursuant to each such subcontract agreement.
- (D) **Substitution of Subcontractor.** If Contractor requests substitution of a listed Subcontractor under Public Contract Code Section 4107, Contractor is solely responsible for all costs City incurs in responding to the request, including legal fees and costs to conduct a hearing.

2.4 Coordination of Work.

- (A) **Concurrent Work.** City reserves the right to perform or to have performed other work on or adjacent to the Project site while the Work is being performed. Contractor is responsible for coordinating its Work with other work being performed on or adjacent to the Project site, and must avoid hindering, delaying, or interfering with the work of other contractors and subcontractors. To the full extent permitted by law, Contractor must hold harmless and indemnify City, Design Professional, and Project Manager against any and all claims arising from or related to Contractor's avoidable, negligent, or willful hindrance of, delay to, or interference with the work of another contractor or subcontractor.
- (B) **Defects.** Before proceeding with any portion of the Work affected by the construction or operations of others, Contractor must give the City prompt written notification of any defects Contractor discovers which will prevent the proper execution of the Work. Failure to give notice of any such known defects will be deemed acknowledgement by Contractor that the work of others is not defective and will not prevent the proper execution of the Work.
- 2.5 Submittals.** Unless otherwise specified, Contractor must submit to Project Manager for review and approval, all schedules, Shop Drawings, samples, product data and similar submittals required by the Contract Documents, or upon request by the Project Manager in PDF format. Unless otherwise specified, all submittals, including requests for information (RFIs), are subject to the general provisions of this Section.
- (A) **General.** Contractor is responsible for ensuring that its submittals are accurate and conform to the Contract Documents.
- (B) **Time and Manner of Submission.** Contractor must ensure that its submittals are prepared and delivered in a manner consistent with the current approved schedule for the Work and within the applicable time specified elsewhere in the Contract Documents, or if no time is specified, in such time and sequence so as not to delay the performance of the Work or completion of the Project.
- (C) **Required Contents.** Each submittal must include the Project name and contract number, Contractor's name and address, the name and address of any Subcontractor or supplier involved with the submittal, the date, and references to applicable Specification section(s) and/or drawing and detail number(s).
- (D) **Required Corrections.** If corrections are required, Contractor must promptly make and submit any required corrections in full conformance with the requirements of this Section.
- (E) **Effect of Review and Approval.** Review or approval of a submittal by the City will not relieve Contractor from complying with the requirements of the Contract Documents. Contractor is responsible for any errors in any submittal, and review or approval of a submittal by the City is not an assumption of risk or liability by City.
- (F) **Enforcement.** Any Work performed or material used without prior approval of a required submittal will be performed at Contractor's risk, and Contractor may be required to bear the costs incident thereto, including the cost of removing and replacing such Work, repairs to other affected portions of the Work, and the cost of additional time or services required of the Design Professional, Project Manager, Inspector or other City representative.
- (G) **Excessive RFIs.** RFIs will be considered excessive or unnecessary if the Engineer determines that the explanation or response to the RFI is clearly and unambiguously discernable in the Contract Documents. The City's costs to review and

respond to excessive or unnecessary RFIs may be deducted from payments otherwise due to the Contractor.

Article 3 Contract Documents

3.1 Interpretation of Contract Documents.

(A) ***Drawings and Specifications.*** The Drawings and Specifications included in the Contract Documents are complementary. If Work is shown on one but not on the other, Contractor must perform the Work as though fully described on both, consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results. The Drawings and Specifications are deemed to include and require everything necessary and reasonably incidental to completion of the Work, whether or not particularly mentioned or shown. Contractor must perform all work and services and supply all things reasonably related to and inferable from the Contract Documents. In the event of a conflict between the Drawings and Specifications, the Specifications will control.

(B) ***Duty to Notify.*** If Contractor becomes aware of any ambiguity, discrepancy, omission, or error in the Drawings or Specifications, Contractor must immediately notify the Design Professional and request clarification of such, by submitting a written request for information (RFI) in the manner specified by City. The Design Professional's clarifications or interpretations will be final and binding.

(C) ***Figures and Dimensions.*** Figures control over scaled dimensions.

(D) ***Technical or Trade Terms.*** Any terms that have well-known technical or trade meanings will be interpreted in accordance with those meanings, unless otherwise specifically defined in the Contract Documents.

(E) ***Measurements.*** Contractor must verify all relevant measurements at the Worksite before ordering any material or performing any Work, and will be responsible for the correctness of those measurements.

3.2 Order of Precedence. Information included in one Contract Document but not in another will not be considered a conflict or inconsistency. Unless otherwise specified in the Special Conditions, in case of any conflict or inconsistency among the Contract Documents, the following order of precedence will apply, beginning from highest to lowest:

- (A) Change Orders;
- (B) Addenda;
- (C) Contract;
- (D) Notice to Proceed;
- (E) Notice of Contract;
- (F) Special Conditions;
- (G) General Conditions;
- (H) Payment and Performance Bonds;
- (I) Specifications;
- (J) Drawings;
- (K) City Standard Details
- (L) Contractor's Bid Proposal and attachments;
- (M) Notice Inviting Bids;
- (N) Instructions to Bidders; and

(O) Any documents prepared by and on behalf of a third party, that were not prepared specifically for this Project, e.g., Caltrans Standard Specifications or Caltrans Special Provisions.

3.3 Caltrans Standard Specifications. Any reference to or incorporation of the Standard Specifications of the State of California, Department of Transportation ("Caltrans"), including "Standard Specifications," "Caltrans Specifications," "State Specifications," or "CSS," means the most current edition of Caltrans' Standard Specifications, unless otherwise specified ("Standard Specifications"), including the most current amendments as of the date that Contractor's bid was submitted for this Project. The following provisions apply to use of or reference to the Standard Specifications:

(A) **Limitations.** None of the "General Provisions" of the Standard Specifications, i.e., Sections 1 through 9, applies to these Contract Documents with the exception of any specific provisions, if any, which are expressly stated to apply to these Contract Documents.

(B) **Conflicts or Inconsistencies.** If there is a conflict or inconsistency between any provision in the Standard Specifications and a provision of these Contract Documents, as determined by the Engineer or Design Professional, the provision in the Contract Documents will govern.

(C) **Meanings.** Terms used in the Standard Specifications are to be interpreted as follows:

(1) Any reference to the "Director" or "Engineer" is deemed to mean the City Engineer.

(2) Any reference to the "Special Provisions" is deemed to mean the Special Conditions.

(3) Any reference to the "Department" or "State" is deemed to mean City.

3.4 For Reference Only. Contractor is responsible for the careful review of any document, study, or report appended to the Contract Documents solely for informational purposes and identified as "For Reference Only." Nothing in any document, study, or report so appended and identified is intended to supplement, alter, or void any provision of the Contract Documents. However, Contractor is advised that City or its representatives may be guided by information or recommendations included in such reference documents, particularly when making determinations as to the acceptability of proposed materials, methods, or changes in the Work. Contractor must promptly notify City of any perceived or actual conflict between the Contract Documents and any document provided For Reference Only.

Article 4

Bonds, Indemnity, and Insurance

4.1 Payment and Performance Bonds. Within ten days following issuance of the Notice of Contract, Contractor is required to provide a payment bond and a performance bond, each in the penal sum of not less than 100% of the Contract Price, using the bond forms included with the Contract Documents. Each bond must be issued by a surety admitted in California. If an issuing surety cancels the bond or becomes insolvent, within seven days following written notice from City, Contractor must substitute a surety acceptable to City. If Contractor fails to substitute an acceptable surety within the specified time, City

may, at its sole discretion, withhold payment from Contractor until the surety is replaced to City's satisfaction, or terminate the Contract for default.

4.2 Indemnity and Liability.

(A) **Contractor's Indemnity Obligation.** To the fullest extent permitted by law, Contractor must indemnify, defend, and hold harmless City, its agents and consultants, Design Professional, and Project Manager (individually, an "Indemnitee," and collectively the "Indemnitees") from and against any and all liability, loss, damage, claims, expenses (including, without limitation, attorney fees, expert witness fees, paralegal fees, and fees and costs of litigation or arbitration) (collectively, "Liability") of every nature arising out of or in connection with the operations of Contractor, its employees, Subcontractors, representatives, or agents, in bidding or performing the Work or its failure to comply with any of its obligations under the Contract, except such Liability caused by the active negligence, sole negligence, or willful misconduct of an Indemnitee. This indemnity requirement applies to any Liability arising from alleged defects in the content or manner of submission of the Contractor's bid for the Contract. Contractor's failure or refusal to timely accept a tender of defense pursuant to this provision will be deemed a material breach of this Contract.

(B) **Third Party Claims.** City will timely notify Contractor upon receipt of any third-party claim relating to the Contract, as required by Public Contract Code Section 9201.

(C) **No Personal Liability.** No member of the City Council or any individual officer, employee or authorized agent of the City will be personally liable to Contractor or to any Subcontractor for any liability arising under this Contract.

4.3 Insurance. No later than ten days following issuance of the Notice of Contract, Contractor is required to procure and provide proof of the insurance coverage required by this section in the form of certificates and endorsements. The required insurance must cover the activities of Contractor and its Subcontractors relating to or arising from the performance of the Work, and must remain in full force and effect at all times during the period covered by the Contract until the date of recordation of the notice of completion. All required insurance must be issued by a company licensed to do business in the State of California, and each such insurer must have an A.M. Best's financial strength rating of "A" or better and a financial size rating of "VIII" or better. If Contractor fails to provide any of the required coverage in full compliance with the requirements of the Contract Documents, City may, at its sole discretion, purchase such coverage at Contractor's expense and deduct the cost from payments due to Contractor, or terminate the Contract for default. Refer to the Special Conditions for further requirements.

4.4 Warranty Bond. As a condition precedent to Final Completion, Contractor must submit a warranty bond, using the form provided by City, to guarantee its Work as specified in Article 11, Completion and Warranty Procedures. The warranty bond must be issued by a surety admitted in California for 15% of the final Contract Price or as otherwise specified in the Contract Documents. If an issuing surety cancels the bond or becomes insolvent, within seven days following written notice from City, Contractor must substitute a surety acceptable to City.

Article 5

Contract Time

5.1 Time is of the Essence. Time is of the essence in Contractor's performance and completion of the Work, and Contractor must diligently prosecute the Work and complete it within the Contract Time.

(A) **General.** Contractor must commence the Work on the date indicated in the notice to proceed, and must fully complete the Work, in strict compliance with all requirements of the Contract Documents, and within the Contract Time.

(B) **Rate of Progress.** Contractor and its Subcontractors must, at all times, provide workers, materials, and equipment sufficient to maintain the rate of progress necessary to ensure full completion of the Work within the Contract Time. If City determines that Contractor is failing to prosecute the Work at a sufficient rate of progress, City may, in its sole discretion, direct Contractor to provide additional workers, materials, or equipment, or to work additional hours or days without additional cost to City, in order to achieve a rate of progress satisfactory to City. If Contractor fails to comply with City's directive in this regard, City may, at Contractor's expense, separately contract for additional workers, materials, or equipment or use City's own forces to achieve the necessary rate of progress. Alternatively, City may terminate the Contract based on Contractor's default.

5.2 Schedule Requirements. All schedules must be prepared using standard scheduling software acceptable to Design Professional, and must provide schedules in electronic and paper form as requested.

(A) **As-Planned (Baseline) Schedule.** Within 15 calendar days following issuance of the Notice of Contract (or as otherwise specified in the Special Conditions), Contractor must submit to City for review and approval an as-planned (baseline) schedule showing in detail how Contractor plans to perform and fully complete the Work within the Contract Time using critical path methodology. The as-planned schedule must include the work of all trades required for the Work, and must be sufficiently comprehensive and detailed to enable progress to be monitored on a day-by-day basis. For each activity, the as-planned schedule must be dated, provided in the format specified in the Contract Documents or as required by the Design Professional, and must include, at a minimum, a description of the activity, the start and completion dates, and the duration.

(B) **Progress Schedules.** Contractor must submit an updated progress schedule and three-week look-ahead schedule, in the format specified by the City, for review and approval with each application for a progress payment. The progress schedule must show how the actual progress of the Work to date compared to the as-planned schedule, and must identify any actual or potential impacts to the critical path.

(C) **Recovery Schedule.** If City determines that the Work is more than one week behind schedule, within seven days following written notice of such determination, Contractor must submit a recovery schedule, showing how the Contractor intends to perform and complete the Work within the Contract Time, based on actual progress to date.

(D) **City Review.** Contractor and its Subcontractors must perform the Work in accordance with the most current schedule for which no exceptions are taken unless otherwise directed by City. City's review of a schedule does not operate to extend the time for completion of the Work or any component of the Work, and will not affect City's right to assess liquidated damages for Contractor's unexcused delay in completing the Work within the Contract Time.

(E) **Posting.** Contractor must at all times maintain a copy of the most current approved progress or recovery schedule posted prominently in its on-site office.

(F) **Reservation of Rights.** City reserves the right to direct the sequence in which the Work must be performed or to make changes in the sequence of the Work in order to facilitate the performance of work by City or others, or to facilitate City's use of its property. The Contract Time or Contract Price may be adjusted to the extent such changes in sequence actually increase or decrease Contractor's time or cost to perform the Work.

(G) **Authorized Working Days and Times.** Contractor is limited to working Monday through Friday, excluding holidays, during City's normal business hours, except as expressly provided in the Special Conditions, or as authorized in writing by City. City reserves the right to charge Contractor for additional costs incurred by City due to Work performed on days or during hours not expressly authorized in these Contract Documents, including reimbursement of costs incurred for inspection, testing, and construction management services.

5.3 Delay and Extensions of Contract Time.

(A) **Excusable Delay.** The Contract Time may be extended if Contractor encounters an unavoidable delay in completing the Work within the Contract Time due to causes completely beyond Contractor's control, and which Contractor could not have avoided or mitigated through planning, foresight, and diligence ("Excusable Delay"). Grounds for Excusable Delay may include fire, earthquake, acts of terror or vandalism, epidemic, unforeseeable adverse government actions, unforeseeable actions of third parties, encountering unforeseeable hazardous materials, unforeseeable site conditions, suspension for convenience under Article 13, or unusually severe weather. Contractor is not entitled to any extension of time or compensation for Excusable Delay that is concurrent with Non-Excusable Delay.

(B) **Non-Excusable Delay.** Non-Excusable Delay includes delay to Final Completion that Contractor could have avoided or mitigated through planning, foresight and diligence, and includes delay caused by:

- (1) weather conditions which are normal for the location of the Project, as determined by reliable records, including monthly rainfall averages, for the preceding ten years;
- (2) Contractor's failure to order equipment and materials sufficiently in advance of the time needed for timely completion of the Work;
- (3) Contractor's failure to provide adequate notification to utility companies for connections or services necessary for the timely performance and completion of the Work;
- (4) foreseeable conditions Contractor could have ascertained from reasonably diligent inspection of the Worksite or review of the Contract Documents; or
- (5) Contractor's financial inability to perform the Work, including insufficient funds to pay its Subcontractors or suppliers.

(C) **Request for Extension of Contract Time.** A request for an extension of time and associated delay costs must be submitted in writing to the Project Manager within ten calendar days of the date the delay is first encountered, even if the duration of the delay is not yet known at that time, or shall be deemed waived. In addition to complying with

the requirements of this Article 5, the request must be submitted in compliance with the Change Order request procedures in Article 6, below. Strict compliance with these requirements is necessary to ensure that any delay or delay costs may be mitigated as soon as possible, and to facilitate cost-efficient administration of the Project and timely performance of the Work. Any request for an extension of time or delay costs that does not strictly comply with the requirements of Article 5 and Article 6 will be deemed waived.

(1) *Required Contents.* The request must include a detailed description of the cause(s) of the delay, and must also describe the measures that Contractor has taken to mitigate the delay and/or its effects, including efforts to mitigate the cost impact of the delay, e.g., by workforce management, change in sequencing, etc. If the delay is still ongoing at the time the request is submitted, the request should also include Contractor's plan for continued mitigation of the delay or its effects.

(2) *Delay Days and Costs.* The request must specify the number of days of Excusable Delay claimed, or provide a realistic estimate if the duration of the delay is not yet known. The request must specify the amount of any delay-related costs that are claimed, or provide a realistic estimate if the amount is not yet known. Any estimate of delay duration or cost must be updated in writing and submitted with all required supporting documentation as soon as the actual time and cost is known.

(3) *Supporting Documentation.* The request must also include any and all supporting documentation necessary to evidence the delay and its actual impacts, including schedule and cost impacts, including a time impact analysis using critical path methodology, and demonstrating unavoidable delay to Final Completion. The time impact analysis must be submitted in a form or format acceptable to City.

(4) *Burden of Proof.* Contractor has the burden of proving 1) that the delay was an Excusable Delay, as defined above, 2) that Contractor has made reasonable efforts to mitigate the delay and its schedule and cost impacts, 3) that the delay will unavoidably result in delaying Final Completion, and 4) that any delay costs claimed by Contractor were actually incurred and were reasonable under the circumstances.

(5) *Recoverable Costs.* If Contractor is granted an extension of time for Excusable Delay, recompense for delay costs shall be limited to actual, direct, reasonable, and substantiated costs, and will not include home office overhead, or markup for overhead and profit.

(6) *Legal Compliance.* Nothing in this provision is intended to require the waiver, alteration, or limitation of the applicability of Public Contract Code Section 7102.

(7) *No Waiver.* Any grant of an extension of time or delay costs due to an Excusable Delay will not operate as a waiver of City's right to assess liquidated damages for unexcused delay.

(8) *Dispute Resolution.* In the event of a dispute over entitlement to an extension of time or delay costs, Contractor may not stop working pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work. Contractor's sole recourse for an unresolved dispute based on City's rejection of a Change Order request for an extension of time or delay costs is to comply with the Dispute Resolution provisions set forth in Article 12, below.

5.4 Liquidated Damages. It is expressly understood that if Final Completion is not achieved within the Contract Time, City will suffer damages which are difficult to determine and accurately specify. Pursuant to Public Contract Code section 7203, if Contractor fails to achieve Final Completion within the Contract Time, City will charge Contractor in the amount specified in the Contract for each day that Final Completion is delayed beyond the Contract Time, as liquidated damages and not as a penalty.

(A) **Liquidated Damages.** Liquidated damages will not be assessed for any Excusable Delay, as set forth above.

(B) **Milestones/Deadlines.** Liquidated damages will also be separately assessed for failure to meet milestones or deadlines specified elsewhere in the Contract Documents.

(C) **Setoff.** City is entitled to set off the amount of liquidated damages assessed against any payments otherwise due to Contractor, including setoff against release of retention. If there are insufficient Contract funds remaining to cover the full amount of liquidated damages assessed, City is entitled to recover the balance from Contractor or its performance bond surety.

(D) **Occupancy or Use.** Occupancy or use of the Project in whole or in part prior to Final Completion does not constitute City's acceptance of the Project and will not operate as a waiver of City's right to assess liquidated damages for Contractor's unexcused delay in achieving Final Completion.

Article 6 Contract Modification

6.1 Changes in Work. City reserves the right to make changes in the Work without invalidating the Contract. City may direct or Contractor may request changes in the Work, and any such changes will be formalized in a Change Order, which may include commensurate changes in the Contract Price or Contract Time as applicable. Contractor must promptly comply with City-directed changes in the Work in accordance with the intent of the original Contract Documents, even if Contractor and City have not yet reached agreement as to adjustments to the Contract Price or Contract Time.

(A) **City-Directed Change.** The Engineer is authorized to direct minor changes to the Work which do not involve a change in Contract Time or a change in Contract Price; and, in the event of an emergency, the Engineer is also authorized to direct extra work needed to avoid imminent harm to persons or property. In the event of a dispute over entitlement to or the amount of a change in Contract Time or a change in Contract Price related to a City-directed change, Contractor must perform the Work as directed and may not delay its work or cease work pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work, including the Work in dispute. If the City requests a cost proposal and other contract adjustments for extra Work from the Contractor, the Contractor shall respond within five working days.

(B) **Contractor's Obligations.** In the event that City and Contractor dispute whether a portion or portions of the Work are already required by the Contract Documents as opposed to changed or extra Work, Contractor must perform the Work as directed and may not delay its Work or cease Work pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work, including the Work in dispute.

(C) **Remedy for Non-Compliance.** Contractor's failure to promptly comply with an City-directed change is deemed a material breach of the Contract, and in addition to all other remedies available to it, City may, at its sole discretion, hire another contractor or use its own forces to complete the disputed Work at Contractor's sole expense, and may deduct the cost from the Contract Price.

(D) **Dispute Resolution.** Contractor's sole recourse for an unresolved dispute related to changes in the Work is to comply with the dispute resolution provisions set forth in Article 12, below.

6.2 Contractor Change Order Requests. Contractor must submit a request or proposal for a change in the Work or a change in the Contract Price or Contract Time as a written Change Order request or proposal.

(A) **Time for Submission.** Any request for a change in the Contract Price must be submitted in writing to the Project Manager within ten calendar days of the date that Contractor first encounters the circumstances, information or conditions giving rise to the Change Order request, even if the total amount of the requested change in the Contract Price or impact on the Contract Time is not yet known at that time.

(B) **Required Contents.** Any Change Order request or proposal submitted by Contractor must include a complete breakdown of actual or estimated costs and credits, and must itemize labor, materials, equipment, taxes, insurance, and subcontract amounts. Any estimated cost must be updated in writing as soon as the actual amount is known.

(C) **Required Documentation.** All claimed costs must be fully documented, and any related request for an extension of time or delay-related costs must be included at that time and in compliance with the requirements of Article 5 of the General Conditions.

(D) **Required Form.** Contractor must use City's form(s) for submitting all Change Order requests or proposals, unless otherwise specified by City.

(E) **Certification.** All Change Order requests must be signed by Contractor and must include the following certification:

"The undersigned Contractor certifies under penalty of perjury that its statements and representations in this Change Order request are true and correct. Contractor warrants that this Change Order request is comprehensive and complete, and agrees that any costs, expenses, or time extension request not included herein shall be deemed waived. Contractor understands that submission of claims which have no basis in fact or which Contractor knows to be false may violate the False Claims Act, as set forth in Government Code Sections 12650 et seq., and Chapter 3.17 of the San Pablo Municipal Code."

6.3 Adjustments to Contract Price. The amount of any increase or decrease to the Contract Price will be determined based on one of the following methods in the order provided:

(A) **Unit Pricing.** Amounts previously provided by Contractor in the form of unit prices, either in a bid schedule or schedule of values, will apply if such unit pricing has previously been provided in Contractor's accepted bid schedule or schedule of values for the affected Work.

(B) **Lump Sum.** A mutually agreed upon lump sum.

(C) **Time and Materials.** On a time and materials basis, which may be subject to a not-to-exceed limit, calculated as the total of the following sums:

- (1) All direct labor costs, excluding superintendence, plus 15% for overhead and profit;
- (2) All direct material costs, including sales tax, plus 15% for overhead and profit;
- (3) All direct plant and equipment rental costs, plus 15% for overhead and profit;
- (4) All direct subcontract costs plus 5% for overhead and profit; and
- (5) Increased bond or insurance premium costs computed at 1.5% of total of the previous four sums.

6.4 Unilateral Change Order. If City disagrees with the amount of compensation or extension of time that Contractor has requested, City may elect to issue a unilateral Change Order, directing performance of the Work, and authorizing a change in the Contract Price or Contract Time in the amount City believes is merited. Contractor's sole recourse to dispute the terms of a unilateral Change Order is to submit a timely Claim pursuant to Article 12, below.

6.5 Non-Compliance Deemed Waiver. Contractor waives its entitlement to any increase in the Contract Price or Contract Time if Contractor fails to full comply with the provisions of this Article. Contractor will not be paid for unauthorized extra work.

Article 7 General Construction Provisions

7.1 Permits and Taxes.

(A) **General.** Contractor must obtain and pay for any and all permits, fees, or licenses required to perform the Work, unless otherwise indicated in the Contract Documents. Contractor must cooperate with and provide notifications to government agencies with jurisdiction over the Project, as may be required. Contractor must provide City with copies of all notices, permits, licenses, and renewals required for the Work.

(B) **Federal Excise Tax.** Contractor must pay for all taxes on labor, material and equipment, except Federal Excise Tax to the extent that City is exempt from Federal Excise Tax.

7.2 Temporary Facilities. Contractor must provide, at Contractor's sole expense, any and all temporary facilities, including onsite office, sanitary facilities, storage, scaffolds, barricades, walkways, and any other temporary structure required to safely perform the Work along with any utility services incidental thereto.

(A) **Standards.** Such structures must be safe and adequate for the intended use, and installed and maintained in accordance with all applicable federal, state, and local laws, codes, and regulations.

(B) **Removal and Repair.** Contractor must promptly remove all such temporary facilities when they are no longer needed or upon completion of the Work, whichever comes first. Contractor must promptly repair any damage to City's property caused by

the installation, use, or removal of the temporary facilities, and must promptly restore the property to its original or intended condition.

(C) **Additional Requirements.** Additional provisions pertaining to temporary facilities may be included in the Specifications or Special Conditions.

7.3 Signs. No signs may be displayed on or about City's property, except signage which is required by law or by the Contract Documents, without City's prior written approval as to content, size, design, and location.

7.4 Protection of Work and Property.

(A) **General.** Contractor is responsible at all times for protecting the Work and materials and equipment to be incorporated into the Work from damage until the Notice of Completion has been recorded. Except as specifically authorized by City, Contractor must confine its operations to the area of the Project site indicated in the Drawings. Contractor is liable for any damage caused to City's real or personal property, the real or personal property of adjacent property owners, or the work or personal property of other contractors working for City.

(B) **Unforeseen Conditions.** If Contractor encounters facilities, utilities, or other unknown conditions not shown on or reasonably inferable from the Drawings or apparent from inspection of the Project site, Contractor must promptly notify the Project Manager, and must avoid taking any action which could cause damage to the facilities or utilities pending further direction from the Project Manager. If the Project Manager's subsequent direction to Contractor affects Contractor's cost or time to perform the Work, Contractor may submit a Change Order request as set forth in Article 6, above.

(C) **Support; Adjacent Properties.** Contractor must provide, install, and maintain all shoring, bracing, underpinning, etc., necessary to provide support to City's property and adjacent properties and improvements thereon. Contractor must provide notifications to adjacent property owners as may be required by law.

7.5 Noninterference. Contractor must take reasonable measures to avoid interfering with City's use of its property at or adjacent to the Project site, including use of roadways, entrances, parking areas, walkways, and structures.

7.6 Materials and Equipment.

(A) **General.** Unless otherwise specified, all materials and equipment required for the Work must be new and of the best grade for the intended purpose, and furnished in sufficient quantities to ensure the proper and expeditious performance of the Work. Unless otherwise specified, all materials and equipment required for the Work are deemed to include all components required for complete installation and intended operation, and must be installed in accordance with the manufacturer's recommendation. Contractor is responsible for all shipping, handling, and storage costs associated with the materials and equipment required for the Work, and is responsible for protecting the Work and all of the required materials, supplies, tools and equipment at Contractor's sole cost until City accepts the Project.

(B) **City-Provided.** If the Work includes installation of materials or equipment to be provided by City, Contractor is solely responsible for the proper examination, handling, storage, and installation of such items in accordance with the Contract Documents. Contractor must promptly notify City of any defects discovered in City-provided materials or equipment. Contractor is solely responsible for any loss of or damage to such items which occurs while the items are in Contractor's custody and control, the cost of which

may be offset from the Contract Price and deducted from any payment(s) due to Contractor.

(C) **Intellectual Property Rights.** Contractor must, at its sole expense, obtain any authorization required for use of patented or copyright protected materials, equipment, devices or processes that are incorporated into the Work. Contractor's indemnity obligation in Article 4, applies to any claimed violation of intellectual property rights in violation of this provision.

7.7 Substitutions.

(A) **"Or Equal."** Any specification designating a material, product, thing, or service by specific brand or trade name, followed by the words "or equal," is intended only to indicate quality and type of item desired, and Contractor may request use of any equal material, product, thing, or service.

(B) **Request for Substitution.** A request for substitution must be submitted to the Project Manager for approval within the applicable time period provided in the Contract Documents. If no time period is specified, the substitution request may be submitted any time within 35 days after the date of award of the Contract, or sufficiently in advance of the time needed to avoid delay of the Work, whichever is earlier.

(C) **Substantiation.** All data substantiating the proposed substitute as an "equal" item must be submitted with the written request for substitution. Contractor's failure to timely provide necessary substantiation is ground for rejection of the proposed substitution, without further review.

(D) **Burden of Proving Equality.** Contractor has the burden of proving the equality of the proposed substitution. The Engineer has sole discretion to determine whether a proposed substitution is "equal," and Design Professional's determination is final.

(E) **Approval or Rejection.** The Engineer shall either:

(a) issue a written determination to the Contractor, as to whether or not the requested substitute material may be used in the performance of the Contract Documents; If the proposed substitution is approved, Contractor is solely responsible for any additional costs associated with the substituted item(s), or

(b) if the Engineer fails to issue a written determination within fifteen calendar days, the requested substitute material shall be deemed rejected.

If the Engineer determines that the substitute material may be used, he will issue a Change Order to the Contractor for such use on the project.

The Engineer's determination shall be final. The Contractor shall not order, install or use the substitute material unless and until approved by Change Order. If the proposed substitution is rejected, Contractor must, without delay, install the item specified.

Contractor shall not be entitled to an extension of Contract Time or any delay damages resulting from a request for a substitution of materials.

(F) **Contractor's Obligations.** The City's review of a proposed substitution will not relieve Contractor from any of its obligations under the Contract Documents. In the event Contractor makes an unauthorized substitution, Contractor will be solely responsible for all resulting cost impacts, including the cost of removal and replacement and the impact to other design elements.

7.8 Testing and Inspection.

(A) **General.** All materials, equipment, and workmanship used in the Work are subject to inspection by Inspector at all times and locations during construction and/or fabrication. All manufacturers' application or installation instructions must be provided to the Inspector at least ten days prior to the first such application or installation. Contractor must, at all times, make the Work available for inspection.

(1) The Inspector will not be available on the Project site at all times during construction. Contractor must plan ahead and schedule inspections at least two working days before the inspections are needed.

(2) The Inspector is authorized to inform Contractor if any portion of the Work does not conform to the requirements of the Contract Documents. If Contractor fails to take timely action to correct any such nonconformance, the Inspector is authorized to stop the Work until the appropriate correction has been made. Inspector also has authority to stop the Work based upon an unsafe condition or emergency.

(3) Contractor will be responsible for inspection costs, at City's established rates, for inspection time lost because the Work is not ready or Contractor fails to appear for a scheduled inspection.

(B) **Scheduling and Notification.** Contractor must schedule all tests required by the Contract Documents in time to avoid any delay to the progress of the Work. Contractor must provide timely notice to all necessary parties as specified in the Contract Documents.

(C) **Responsibility for Costs.** City will bear the initial cost of testing or inspection to be performed by independent testing or inspection consultants retained by City, subject to the following exceptions:

(1) Contractor will be responsible for the costs of any subsequent tests or inspections which are required to substantiate compliance with the Contract Documents, and any associated remediation costs.

(2) In addition, if any portion of the Work which is subject to testing or inspection is covered or concealed by Contractor prior to testing, Contractor will bear the cost of making that portion of the Work available for the testing or inspection required by the Contract Documents, and any associated repair or remediation costs.

(D) **Contractor's Obligations.** Any Work that fails to comply with the requirements of the Contract Documents must be promptly repaired, replaced, or corrected by Contractor, at Contractor's sole expense, even if that Work was previously inspected or included in a progress payment. Contractor is solely responsible for any delay occasioned by remediation of noncompliant Work. Inspection of the Work does not in any way relieve Contractor of its obligations to perform the Work as specified.

(E) **Distant Locations.** If required off-site testing or inspection must be conducted at a location more than 100 miles from the Project site, Contractor is solely responsible for the additional travel costs required for testing and/or inspection at such locations.

(F) **Final Inspection.** The provisions of this Section 7.8 apply to final inspection under Article 11, Completion and Warranty Provisions.

- 7.9 Clean up.** Contractor must regularly remove debris and waste materials and maintain the Worksite in clean and neat condition.
- (A) **General.** Prior to discontinuing work in an area, Contractor must clean the area and remove all rubbish along with its construction equipment, tools, machinery, waste and surplus materials. Contractor must, at all times, minimize and confine dust and debris resulting from construction activities.
- (B) **Completion.** At the completion of the Work, Contractor must remove from the Worksite all of its equipment, tools, surplus materials, waste materials and debris. Before demobilizing from the Worksite, Contractor must ensure that all surfaces are cleaned, sealed, waxed, or finished as applicable, and that all marks, stains, paint splatters, and the like have been properly removed from the completed Work and the surrounding areas.
- (C) **Non-Compliance.** If Contractor fails to commence compliance with its cleanup obligations within two business days following written notification from City or its representative, City may undertake appropriate cleanup measures without further notice and the cost will be deducted from any amounts due or to become due the Contractor.
- 7.10 Instructions and Manuals.** Contractor must provide three copies each of all instructions and manuals required by the Contract Documents, unless otherwise specified. These must be complete as to drawings, details, parts lists, performance data, and other information that may be required for City to easily maintain and service the materials and equipment installed for this Project.
- (A) **Submittal Requirements.** All manufacturers' application or installation instructions must be provided to the Inspector at least ten days prior to the first such application. The instructions and manuals, along with any required guarantees, must be delivered to the Design Professional for review.
- (B) **Instruction of Personnel.** Contractor or its Subcontractors must instruct City's personnel in the operation and maintenance of any complex equipment as a condition precedent to Final Completion, if required in the Contract Documents.
- 7.11 As-built Drawings.** Contractor and its Subcontractors must maintain on the Worksite a separate complete set of the Drawings which will be used solely for the purpose of recording changes made in any portion of the Work in order to create accurate record drawings at the end of the Project.
- (A) **Duty to Update.** The as-built drawings must be updated as changes occur, on a daily basis if necessary. Progress payments may be delayed, in whole or in part, until the as-built drawings are brought up to date to the satisfaction of the Engineer. Actual locations to scale must be identified on the as-built drawings for all runs of mechanical and electrical work, including all site utilities, etc., installed underground, in walls, floors, or otherwise concealed. Deviations from the original Drawings must be shown in detail. The location of all main runs, whether piping, conduit, ductwork, drain lines, etc., must be shown by dimension and elevation.
- (B) **Format Requirements.** Submit as-built drawings in the following formats:
- (1) AutoCAD (latest version). Include survey points and infrastructure shots.
 - (2) Acrobat PDF (full/actual size, >600dpi) scanned wet signed.
 - (3) One (full size bond) complete set wet-signed hardcopy.

- (C) **Final Completion.** Contractor must verify that all changes in the Work are depicted in the as-built drawings and must deliver the complete set of as-built drawings to the City for review and approval as a condition precedent to Final Completion.

7.12 Existing Utilities. As required by Government Code Section 4215, if, during the performance of the Work, Contractor discovers utility facilities not identified by City in the Contract Documents, Contractor must immediately provide written notice to City and the utility. City assumes responsibility for the timely removal, relocation, or protection of existing main or trunkline utility facilities located on the Project site, if those utilities are not identified in the Contract Documents. Contractor will be compensated in accordance with the provisions of the Contract Documents for the costs of locating, repairing damage not due to Contractor's failure to exercise reasonable care, and removing or relocating such utility facilities not indicated in the Drawings or Specifications with reasonable accuracy, and for equipment on the Project necessarily idled during such work. Contractor will not be assessed liquidated damages for delay in completion of the Work, to the extent such delay was caused by City's failure to provide for removal or relocation of the utility facilities.

7.13 Notice of Excavation. Government Code Section 4216.2, requires that except in an emergency, Contractor must contact the appropriate regional notification center, or Underground Services Alert at 800-642-2444 (for Northern California), at least two working days, but not more than 14 calendar days before starting any excavation if the excavation will be conducted in an area that is known, or reasonably should be known, to contain subsurface installations, and if practical, Contractor must delineate with white paint or other suitable markings the area to be excavated.

7.14 Trenching and Excavations.

- (A) **Duty to Notify.** Contractor must promptly, and before the following conditions are disturbed, provide written notice to City if the Contractor finds any of the following conditions:

(1) Material that Contractor believes may be a hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with the provisions of existing law;

(2) Subsurface or latent physical conditions at the Worksite differing from those indicated by information about the Worksite made available to bidders prior to the deadline for submitting bids; or

(3) Unknown physical conditions at the Worksite of any unusual nature, materially different from those ordinarily encountered and generally recognized as inherent in work of the character required by the Contract Documents.

- (B) **City Investigation.** City will promptly investigate the conditions and if City finds that the conditions do materially differ or do involve hazardous waste, and cause a decrease or increase in Contractor's cost of, or the time required for, performance of any part of the Work, City will issue a Change Order.

- (C) **Disputes.** In the event that a dispute arises between the City and the Contractor regarding any of the conditions specified in subsection (A) above, Contractor will not be excused from any scheduled completion date provided for in the Contract Documents, but must proceed with all Work to be performed under the Contract. Contractor will retain

any and all rights provided either by the Contract or by law which pertain to the resolution of disputes between Contractor and City.

7.15 Trenching of Five Feet or More. As required by Labor Code Section 6705, if the Contract Price exceeds \$25,000 and the Work includes the excavation of any trench or trenches of five feet or more in depth, a detailed plan must be submitted to City or its civil or structural engineer, for acceptance in advance of the excavation. The detailed plan must show the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation. If the plan varies from the shoring system standards, it must be prepared by a registered civil or structural engineer. Use of a shoring, sloping, or protective system less effective than that required by the Construction Safety Orders is prohibited.

7.16 New Utility Connections. City will pay connection charges and meter costs for new permanent utilities required by the Contract Documents, if any. Contractor must notify City sufficiently in advance of the time needed to request service from each utility provider so that connections and services are initiated in accordance with the Project schedule.

7.17 Lines and Grades. Contractor is required to use any benchmark provided by Design Professional. Unless otherwise specified in the Contract Documents, Contractor must provide all lines and grades required to execute the Work.

7.18 Historic or Archeological Items.

(A) **Contractor's Obligations.** Contractor must ensure that all persons performing Work at the Project site are required to immediately notify the Project Manager, upon discovery of any potential historic or archeological items, including historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints or other archeological, paleontological or historical feature on the Project site (collectively, "Historic or Archeological Items").

(B) **Discovery; Cessation of Work.** Upon discovery of any potential Historic or Archeological Items, Work must be stopped within an 85-foot radius of the find and may not resume until authorized in writing by Project Manager. If required by City, Contractor must assist in protecting or recovering the Historic or Archeological Items, any such assistance to be compensated as extra work on a time and materials basis under Article 6, Contract Modification. Any suspension of Work required due to discovery of Historic or Archeological Items will be treated as a suspension for convenience under Article 13.

7.19 Environmental Control. Contractor must not pollute any drainage course or its tributary inlets with fuels, oils, bitumens, acids, insecticides, herbicides or other harmful materials. Contractor and its Subcontractors must at all times in the performance of the Work comply with all applicable federal, state, and local laws and regulations concerning pollution of waterways.

(A) **Stormwater Permit.** Contractor must comply with all applicable conditions of the State Water Resources Control Board National Pollutant Discharge Elimination System General Permit for Waste Discharge Requirements for Discharges of Stormwater Runoff Associated with Construction Activity ("Stormwater Permit").

(B) **Contractor's Obligations.** If required for the Work, a copy of the Stormwater Permit is on file in City's principal administrative offices, and the Contractor must comply with the same without adjustment of the Contract Price or the Contract Time. The Contractor must timely and completely submit required reports and monitoring information required by the conditions of the Stormwater Permit, the Contractor must comply with all other applicable state, municipal or regional laws, ordinances, rules or

regulations governing discharge of stormwater, including applicable municipal stormwater management programs.

7.20 Sound Control Requirements. Sound control shall conform to these Special Provisions and the City's Noise Control ordinance (San Pablo Municipal Code Chapter 9.12).

The noise level from the contractor's operations between the hours of 10:00 p.m. and 7:00 a.m. (if such hours are allowed by City Engineer), shall not exceed 86 DbA at a distance of 50 feet. This requirement does not relieve the Contractor from responsibility for complying with other laws regulating noise levels.

The noise level requirement shall apply to all equipment on the job or related to the job, including but not limited to trucks, transit mixers or transient equipment that may or may not be owned by the Contractor. The use of loud sound signals shall be avoided in favor of light warnings except those required by safety laws for the protection of personnel.

Article 8 Payment

8.1 Schedule of Values. Prior to submitting its first application for payment, Contractor must prepare and submit to Project Manager a schedule of values apportioned to the various divisions and phases of the Work. Each line item contained in the schedule of values must be assigned a value such that the total of all items equals the Contract Price. The items must be sufficiently detailed to enable accurate evaluation of the percentage of completion claimed in each application for payment, and the assigned value consistent with any itemized or unit pricing submitted with Contractor's bid.

8.2 Progress Payments. Following the last day of each month, or as otherwise required by the Special Conditions or Specifications, Contractor will submit to Project Manager a monthly application for payment for Work performed during the preceding month based on the estimated value of the Work performed during that preceding month.

(A) **Application for Payment.** Each application for payment must be itemized to include labor, materials, and equipment incorporated into the Work, and materials and equipment delivered to the Worksite, as well as authorized and approved Change Orders. Each pay application must be supported by the Contractor's schedule of values and any other substantiating data required by the Contract Documents

(B) **Payment of Undisputed Amounts.** City will pay the undisputed amount due, as certified by the Design Professional, within thirty (30) days after Contractor has submitted a complete and accurate payment application, subject to Public Contract Code Section 20104.50. City will deduct a percentage from each progress payment as retention, as set forth in Section 8.5, below, and may deduct additional amounts as set forth in Section 8.3, below.

8.3 Adjustment of Payment Application. City may adjust or reject a payment application, including application for Final Payment, in whole or in part, based upon any of the circumstances listed below. Contractor will be notified in writing of the basis for the adjustment, and will be promptly paid once the basis for that adjustment has been remedied and no longer exists.

(A) Contractor's unexcused failure to perform the Work as required by the Contract Documents, including correction or completion of punch list items;

(B) Loss or damage caused by Contractor or its Subcontractor(s) arising out of or relating to performance of the Work;

- (C) Contractor's failure to pay its Subcontractors and suppliers when payment is due;
- (D) Failure to timely correct rejected, nonconforming, or defective Work;
- (E) Unexcused delay in performance of the Work;
- (F) Any unreleased stop notice, retained as 125% of the amount claimed;
- (G) Failure to submit any required schedule, schedule update or daily reports in the manner and within the time specified in the Contract Documents;
- (H) Failure to maintain or submit as-built documents in the manner and within the time specified in the Contract Documents;
- (I) Work performed without approved Shop Drawings, when approved Shop Drawings are required before proceeding with the Work;
- (J) Contractor's payroll records are delinquent or inadequate; and
- (K) Any other costs or charges that may be offset against payments due, as provided in the Contract Documents, including liquidated damages and costs incurred to review excessive or unnecessary RFIs.

8.4 Acceptance of Work. Neither City's payment of progress payments nor its partial or full use or occupancy of the Project constitutes acceptance of any part of the Work.

8.5 Retention. City will retain five percent of the amount due on each progress payment, or the percentage stated in the Notice Inviting Bids, whichever is greater, as retention to ensure full and satisfactory performance of the Work.

(A) **Substitution of Securities.** As provided by Public Contract Code Section 22300, Contractor may request in writing that it be allowed, at its sole expense, to substitute securities for the retention withheld by City. Any escrow agreement entered into pursuant to this provision will fully comply with Public Contract Code Section 22300, and will be subject to approval as to form by City's legal counsel.

(B) **Release of Undisputed Retention.** All undisputed retention, less any amounts that may be assessed as liquidated damages, retained for stop notices, or otherwise withheld under Section 8.3 or 8.6 will be released as Final Payment to Contractor no sooner than 35 days following recordation of the notice of completion, and no later than 60 days following acceptance of the Project by City's governing body or authorized designee, or, if the Project has not been accepted, no later than 60 days after the Project is otherwise considered complete under Public Contract Code Section 7107(c).

8.6 Setoff. City is entitled to set off any amounts due from Contractor against any payments due to Contractor. City's entitlement to setoff includes progress payments as well as Final Payment and release of retention.

8.7 Payment to Subcontractors and Suppliers. Each month, Contractor must promptly pay each Subcontractor and supplier the value of the portion of labor, materials, and equipment incorporated into the Work or delivered to the Worksite by the Subcontractor or supplier during the preceding month. Such payments must be made in accordance with the requirements of the law, and those of the Contract Documents and applicable subcontract or supplier contract.

- (A) **Withholding for Stop Notice.** City will withhold 125% of the amount claimed by an unreleased stop notice, a portion of which may be retained by City for the costs incurred in handling the stop notice claim, including attorneys' fees and costs, as authorized by law.
- (B) **Joint Checks.** City reserves the right to issue joint checks made payable to the Contractor and its Subcontractors or suppliers. As a condition to release of payment by a joint check, the joint check payees may be required to execute a joint check agreement in a form provided or approved by City. The joint check payees will be jointly and severally responsible for the allocation and disbursement of funds paid by joint check. Payment by joint check will not be construed to create a contractual relationship between City and a Subcontractor or supplier of any tier beyond the scope of the joint check agreement.
- 8.8 Final Payment.** Contractor's application for Final Payment must comply with the requirements for submitting an application for a progress payment as stated in Section 8.2, above. Application shall also include completed and signed labor compliance forms for federal or CDBG funded projects, if required. Corrections to previous progress payments, including adjustments to estimated quantities for unit priced items, may be included in the Final Payment. The date of Final Payment is deemed to be effective on the date that City acts to release retention as final payment to Contractor, or otherwise provides written notice to Contractor of Final Payment. If the amount due from Contractor to City exceeds the amount of Final Payment, City retains the right to recover the balance from Contractor or its sureties.
- 8.9 Release of Claims.** City may, at any time, require that payment of the undisputed portion of any progress payment or Final Payment be contingent upon Contractor furnishing City with a written release of all claims against City arising from or related to the portion of Work covered by those undisputed amounts. Any disputed amounts may be specifically excluded from the release.
- 8.10 Warranty of Title.** Contractor warrants that title to all work, materials, or equipment incorporated into the Work and included in a request for payment will pass over to City free of any claims, liens, or encumbrances upon payment to Contractor.

Article 9 Labor Provisions

- 9.1 Discrimination Prohibited.** Discrimination against any prospective or present employee engaged in the Work on grounds of race, color, ancestry, national origin, ethnicity, religion, sex, sexual orientation, age, disability, or marital status is strictly prohibited. Contractor and its Subcontractors are required to comply with all applicable Federal and California laws including the California Fair Employment and Housing Act (Government Code Sections 12900 et seq.), Government Code Section 11135, and Labor Code Sections 1735, 1777.5, 1777.6, and 3077.5.
- 9.2 Labor Code Requirements.**
- (A) **Eight Hour Day.** Under Labor Code Section 1810, eight hours of labor constitute a legal day's work under this Contract.
- (B) **Penalty.** Under Labor Code Section 1813, Contractor will forfeit to City as a penalty, the sum of \$25.00 for each day during which a worker employed by Contractor or any Subcontractor is required or permitted to work more than eight hours in any one calendar day or more than 40 hours per calendar week, except if such workers are paid overtime under Labor Code Section 1815.

(C) **Apprentices.** Contractor is responsible for compliance with the requirements governing employment and payment of apprentices, as set forth in Labor Code Section 1777.5, which is fully incorporated by reference.

(D) **Notices.** Under Labor Code Section 1771.4, Contractor is required to post all job site notices prescribed by law or regulation.

9.3 Prevailing Wages. Each worker performing Work under this Contract that is covered under Labor Code Section 1720 or 1720.9, including cleanup at the Project site, must be paid at a rate not less than the prevailing wage as defined in Sections 1771 and 1774 of the Labor Code. The prevailing wage rates are available online at <http://www.dir.ca.gov/dlsr>. Contractor must post a copy of the applicable prevailing rates at the Worksite.

(A) **Penalties.** Under Labor Code Section 1775, Contractor and any Subcontractor will forfeit to City as a penalty up to \$200.00 for each calendar day, or portion a day, for each worker paid less than the applicable prevailing wage rate. Contractor must also pay each worker the difference between the applicable prevailing wage rate and the amount actually paid to that worker.

(B) **Federal Requirements.** If this Project is subject to Federal prevailing wage requirements in addition to California prevailing wage requirements, Contractor and its Subcontractors are required to pay the higher of the current applicable prevailing wage rates under federal law, available online at <http://www.access.gpo.gov/davisbacon/ca.html>, or under California law, available online at <http://www.dir.ca.gov/DLSR>.

9.4 Payroll Records. Contractor must comply with the provisions of Labor Code Sections 1776 and 1812 and all implementing regulations, which are fully incorporated by this reference, including requirements for electronic submission of payroll records.

(A) **Contractor and Subcontractor Obligations.** Contractor and each Subcontractor must keep accurate payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed in connection with the Work. Each payroll record must contain or be verified by a written declaration that it is made under penalty of perjury, stating both of the following:

(1) The information contained in the payroll record is true and correct.

(2) The Contractor or Subcontractor has complied with the requirements of Labor Code Sections 1771, 1811, and 1815 for any Work performed by its employees on the Project.

(B) **Certified Record.** A certified copy of an employee's payroll record must be made available for inspection or furnished to the employee or his or her authorized representative on request, to City, or to the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the Department of Industrial Relations, and as further provided by the Labor Code.

(C) **Enforcement.** Upon notice of noncompliance with Labor Code Section 1776, Contractor or Subcontractor has ten days in which to comply with requirements of this section. If Contractor or Subcontractor fails to do so within the ten day period, Contractor or Subcontractor will forfeit a penalty of \$100.00 per day, or portion a day, for each

worker for whom compliance is required, until strict compliance is achieved. Upon request by the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement, these penalties will be withheld from progress payments then due.

9.5 Labor Compliance. Under Labor Code section 1771.4, the Contract for this Project, if awarded on or after January 15, 2015, is subject to compliance monitoring and enforcement by the California Department of Industrial Relations.

Article 10 Safety Provisions

10.1 Safety Precautions and Programs. Contractor and its Subcontractors are fully responsible for safety precautions and programs, and for the safety of persons and property in the performance of the Work. Contractor and its Subcontractors must comply with all applicable safety laws, rules and regulations and seek to avoid injury, loss, or damage to persons or property by taking reasonable steps to protect its employees and other persons at the Worksite, materials and equipment stored on or off site, and property at or adjacent to the Worksite.

(A) **Reporting Requirements.** Contractor must immediately provide a written report to City of all recordable accidents and injuries occurring at the Worksite. If Contractor is required to file an accident report with a government agency, Contractor will provide a copy of the report to City.

(B) **Legal Compliance.** Contractor's safety program must comply with the applicable legal and regulatory requirements. Contractor must provide City with copies of all notices required by law or regulation.

(C) **Contractor's Obligations.** Any damage or loss caused by Contractor arising from the Work which is not insured under property insurance must be promptly remedied by Contractor.

(D) **Remedies.** If City determines, in its sole discretion, that any part of the Work or Worksite is unsafe, City may, without assuming responsibility for Contractor's safety program, require Contractor or its Subcontractor to cease performance of the Work or to take corrective measures to the City's satisfaction. If Contractor fails to promptly take the required corrective measures, City may perform them and deduct the cost from the Contract Price. Contractor agrees it is not entitled to submit a Claim for damages, for an increase in Contract Price, or for a change in Contract Time based on Contractor's compliance with the City's request for corrective measures pursuant to this provision.

10.2 Hazardous Materials. Unless otherwise specified, this Contract does not include the removal, handling, or disturbance of any asbestos or other Hazardous Materials. If Contractor encounters materials on the Worksite that Contractor reasonably believes to be asbestos or other Hazardous Materials, and the asbestos or other Hazardous Materials have not been rendered harmless, Contractor may continue Work in unaffected areas reasonably believed to be safe, but must immediately cease work on the area affected and report the condition to the City. No asbestos, asbestos-containing products or other Hazardous Materials may be used in performance of the Work.

10.3 Material Safety. Contractor must maintain Material Safety Data Sheets ("MSDS") at the Worksite, as required by law, for materials or substances used or consumed in the performance of the Work. The MSDS shall be accessible and available to Contractor's employees, Subcontractors, and the City.

(A) **Contractor Obligations.** Contractor is solely responsible for the proper delivery, handling, use, storage, removal, and disposal of all materials brought to the Worksite and/or used in the performance of the Work.

(B) **Labeling.** Contractor must ensure proper labeling on any material brought onto the Worksite so that any persons working with or in the vicinity of the material may be informed as to the identity of the material, any potential hazards, and requirements for proper handling, protections, and disposal.

Article 11

Completion and Warranty Provisions

11.1 Final Completion.

(A) **Final Inspection.** When the Work required by this Contract is fully performed, Contractor must provide written notification to the Project Manager requesting final inspection. Based on this inspection, the Design Professional will prepare a punch list of items that are incomplete, incorrectly installed, or not operating as required by the Contract Documents. The omission of any such item from this punch list will not relieve the Contractor from fulfilling all requirements of the Contract Documents. If Contractor requests final inspection and City determines that Work exceeding five percent of the total value of the Contract, as adjusted, remains unfinished, Contractor will be responsible for the City's costs, including staff time, for performance of the final inspection on a premature basis.

(B) **Punch List.** The City will deliver the punch list to Contractor and will specify the time by which all of the punch list items must be completed or corrected. The punch list may include City's estimated cost to complete each punch list item if Contractor fails to do so within the specified time.

(C) **Requirements for Final Completion.** Final Completion will be achieved upon completion or correction of all punch list items, as verified by inspection, and upon satisfaction of all other Contract requirements, including any commissioning required under the Contract Documents, and submission of all final submittals, including a warranty bond as required under Section 4.4, instructions and manuals as required under Section 7.10, and as-built drawings as required under Section 7.11, all to City's satisfaction.

(D) **Acceptance.** Following Final Completion, the Project is considered accepted once the City Council takes action during a public meeting to accept the Project. If the City Council authorizes the Engineer to accept the Project, the Project is considered accepted upon the Engineer's issuance of a written notice of acceptance. After the Project has been formally accepted by City, City will file a notice of completion with the County Recorder.

(E) **Final Payment.** Final Payment and release of retention, less any sums withheld pursuant to the provisions of the Contract Documents, will not be made sooner than 35 days after recordation of the notice of completion. If Contractor fails to complete all of the punch list items within the specified time, City may elect to accept the Project and record the notice of completion, and withhold up to 150% of City's estimated cost to complete the remaining items from Final Payment.

11.2 Warranty.

(A) **General.** Contractor warrants that all materials and equipment will be new unless otherwise specified, of good quality, in conformance with the Contract Documents, and free from defective workmanship and materials. Contractor further warrants that the Work will be free from material defects not intrinsic in the design or materials required in the Contract Documents. At City's request, Contractor must furnish satisfactory evidence of the quality and type of materials and equipment furnished. Contractor's warranty does not extend to damage caused by normal wear and tear, or improper use or maintenance.

(B) **Warranty Period.** Contractor's warranty must guarantee its Work for a period of one year from the date of recordation of the notice of completion (the "Warranty Period"), except when a longer guarantee is provided by a supplier or manufacturer or is required by the Specifications or Special Conditions. Contractor must obtain from its Subcontractors, suppliers and manufacturers any special or extended warranties required by the Contract Documents.

(C) **Warranty Documents.** As a condition precedent to acceptance, Contractor must supply City with all warranty and guarantee documents relevant to equipment and materials incorporated into the Work and guaranteed by their suppliers or manufacturers.

(D) **Subcontractors.** The warranty obligations in the Contract Documents apply to Work performed by Contractor and its Subcontractors, and Contractor expressly agrees to act as co-guarantor of such Work.

(E) **Contractor's Obligations.** Upon written notice from City to Contractor of any defect in the Work discovered during the Warranty Period, Contractor or its responsible Subcontractor must promptly correct the defective Work at its own cost. Contractor's obligation to correct defects discovered during the Warranty Period will continue past the expiration of the Warranty Period as to any defects in Work for which Contractor was notified prior to expiration of the Warranty Period.

(F) **City's Remedies.** If Contractor and/or its responsible Subcontractor fails to correct defective Work within ten days following notice by City, or sooner, if required by the circumstances, Contractor expressly agrees that City may correct the defects to conform with Contract Documents at Contractor's sole expense, and Contractor agrees to reimburse City for its costs within 30 days following City's submission of a demand for payment pursuant to this provision. If City is required to initiate legal action to compel Contractor's compliance with this provision, and City is the prevailing party in such action, Contractor is solely responsible for all of City's attorney's fees and legal costs expended to enforce Contractor's warranty obligations herein in addition to any and all costs incurred by City to correct the defective Work.

11.3 Use Prior to Final Completion. City reserves the right to occupy or make use of the Project, or any portions of the Project, prior to Final Completion if City has determined that the Project or portion of it is in a condition suitable for the proposed occupation or use, and that it is in its best interest to occupy or make use of the Project, or any portions of it, prior to Final Completion. City will notify Contractor in writing of its intent to occupy or make use of the Project or any portions of the Project, pursuant to this provision.

(A) **Non-Waiver.** Occupation or use prior to Final Completion will not operate as acceptance of the Work or any portion of it, nor will it operate as a waiver of any of City's rights or Contractor's duties pursuant to these Contract Documents, and will not affect nor bear on the determination of the time of substantial completion with respect to any statute of repose pertaining to the time for filing an action for construction defect.

(B) **City's Responsibility.** City will be responsible for the cost of maintenance and repairs due to normal wear and tear with respect to those portions of the Project that are

being occupied or used before final completion. The Contract Price or the Contract Time may be adjusted pursuant to the applicable provisions of these Contract Documents if, and only to the extent that, any occupation or use under this Section actually adds to Contractor's cost or time to perform the Work.

- 11.4 Substantial Completion.** For purposes of determining "substantial completion" with respect to any statute of repose pertaining to the time for filing an action for construction defect, "substantial completion" is deemed to mean the last date that Contractor or any Subcontractor performs Work on the Project prior to recordation of the Notice of Completion, except for warranty work performed under this Article.

Article 12 Dispute Resolution

- 12.1 Claims.** This Article applies to and provides the exclusive procedures for any Claim arising from or related to the Contract or performance of the Work.

(A) **Definition.** "Claim" means a separate demand by Contractor, submitted in writing, for change in the Contract Time or Contract Price that has previously been submitted to City in accordance with the requirements of the Contract Documents, and which has been rejected by City, in whole or in part.

(B) **Limitations.** A Claim may only include the portion of a previously rejected demand that remains in dispute between Contractor and City. With the exception of any dispute regarding the amount of money actually paid to Contractor as Final Payment, Contractor is not entitled to submit a Claim demanding a change in the Contract Time or the Contract Price, which has not previously been submitted to City in full compliance with Article 5 and Article 6, and subsequently rejected in whole or in part by City.

(C) **Scope of Article.** This Article is intended to provide the exclusive procedures for submission and resolution of Claims of any amount, and applies in addition to the provisions of Public Contract Code Sections 20104, et seq.

- 12.2 Claims Submission.** The following requirements apply to any Claim subject to this Article:

(A) **Substantiation.** The Claim must be submitted to City in writing and must include all of the documents necessary to substantiate the Claim including the change order request that was rejected in whole or in part, and City's rejection. Any Claim for additional payment must include a complete, itemized breakdown of all labor, materials, taxes, insurance, and subcontract, or other costs. Substantiating documentation such as payroll records, receipts, invoices, or the like, must be submitted in support of each claimed cost. Any Claim for an extension of time or delay costs must be substantiated with schedule analysis and narrative depicting and explaining claimed time impacts. Any claim for lost productivity or efficiency must be supported with a detailed analysis based on Measured Mile Method, using verifiable data and current industry standard forensic practices.

(B) **Claim Format.** A Claim must be submitted in the following format:

- (1) General introduction.
- (2) Relevant background information.

(3) Detailed explanation of the issue(s) in dispute. For multiple issues, separately number and identify each issue and include the following for each separate issue:

- a) Background, including references to relevant provisions of the Contract Documents.
- b) A succinct statement of the matter in dispute, including Contractor's position and the basis for that position.
- c) A chronology of relevant events.
- d) Identify and attach all supporting documents. (See subsection (A), above, on Substantiation.)
- e) Begin each issue on a separate page.

(4) Summary of issues and damages.

(5) The following certification, executed by Contractor's authorized representative:

"The undersigned Contractor certifies under penalty of perjury that its statements and representations in this Claim are true and correct. Contractor warrants that this Claim is comprehensive and complete as to the matters in dispute, and agrees that any costs, expenses, or delay claim not included herein are deemed waived. Contractor understands that submission of a Claim which has no basis in fact or which Contractor knows to be false may violate the False Claims Act (Government Code Section 12650 et seq.)."

(C) ***Submission Deadlines.***

(1) A Claim must be submitted within 15 days following the date that City notified Contractor in writing that a request for a change in the Contract Time or Contract Price, duly submitted in compliance with Article 5 and Article 6, has been rejected in whole or in part.

(2) With the exception of any dispute regarding the amount of Final Payment, any Claim must be filed on or before the date of Final Payment, or will be deemed waived.

(3) A Claim disputing the amount of Final Payment must be submitted within 15 days of the effective date of Final Payment, under Section 8.8, above.

(4) Strict compliance with these Claim submission deadlines is necessary to ensure that any dispute may be mitigated as soon as possible, and to facilitate cost-efficient administration of the Project. Any Claim that is not submitted within the specified deadlines will be deemed waived by Contractor.

12.3 Claims Under \$50,000. For any Claim of less than \$50,000.00, City will respond in writing within 45 days of receipt of the Claim, or may first request, in writing, within 30 days of receipt of the Claim, any additional documentation supporting the Claim or relating to defenses to the Claim that City may have against Contractor. If Contractor fails to submit the additional documentation to City within 15 days of receipt of City's request, the claim will be deemed waived.

(A) **Additional Information.** If additional information is thereafter required, it may be requested and provided upon mutual agreement of City and Contractor.

(B) **City's Response.** City's written response to the Claim, as further documented, will be submitted to Contractor within 15 days after receipt of the further documentation or within a period of time no greater than that taken by Contractor in producing the additional information, whichever is greater.

(C) **Non-Waiver.** Any failure by City to respond within the times specified above may not be construed as acceptance of the Claim in whole or in part, or as a waiver of any provision of these Contract Documents.

12.4 Claims From \$50,000 to \$375,000. For any Claim of over \$50,000.00, and less than or equal to \$375,000.00, City will respond in writing within 60 days of receipt of the Claim, or may request, in writing, within 30 days of receipt of the Claim, any additional documentation supporting the Claim or relating to the defenses to the Claim that City may have against Contractor. If Contractor fails to submit the additional documentation to City within 30 days of receipt of City's request, the claim will be deemed waived.

(A) **Additional Information.** If additional information is thereafter required, it may be requested and provided upon mutual agreement of City and Contractor.

(B) **City's Response.** City's written response to the Claim, as further documented, will be submitted to Contractor within 30 days of receipt of the further documentation, or within a period of time no greater than that taken by the Contractor in producing the additional information or requested documentation, whichever is greater.

(C) **Non-Waiver.** Any failure by City to respond within the times specified above may not be construed as acceptance of the Claim in whole or in part, or as a waiver of any provision of these Contract Documents.

12.5 Claims Over \$375,000. For any Claim of over \$375,000.00, City will respond in writing within 90 days of receipt of the Claim. City may request, in writing, within 45 days of receipt of the Claim, any additional documentation supporting the Claim relating to defenses to the Claim that City may have against the Contractor. If Contractor fails to submit the additional documentation to City within 45 days of receipt of City's request, the claim will be deemed waived.

(A) **Additional Information.** If additional information is thereafter required, it may be requested and provided upon mutual agreement of City and Contractor.

(B) **City's Response.** City's response to the Claim, as further documented, will be submitted to Contractor within 45 days after receipt of the further documentation, or within a period of time no greater than that taken by Contractor in producing the additional information or requested documentation, whichever is greater.

(C) **Non-Waiver.** Any failure by City to respond within the times specified above may not be construed as acceptance of the Claim in whole or in part, or as a waiver of any provision of these Contract Documents.

12.6 Meet and Confer.

(A) **Claims up to \$375,000.** For Claims less than or equal to \$375,000.00, if Contractor disputes the City's written response, or City fails to respond within the specified time, Contractor must notify City in writing, either within 15 days of receipt of

City's response, or within 15 days of City's failure to respond within the specified time, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. If Contractor fails to dispute City's response, in writing, within the specified times, Contractor's Claim will be deemed waived.

(1) Upon receipt of the demand to meet and confer, City will schedule the meet and confer conference to be held within 30 days, or later if needed to ensure the mutual availability of all of the individuals that each party requires to represent its interests at the meet and confer conference.

(2) The meet and confer conference will be scheduled at a location at or near City's principal office.

(3) If the Claim or any portion remains in dispute following the meet and confer conference, the parties may agree to mediation, as set forth in Section 12.7, below, or if unable to agree, Contractor may file a claim as provided in Government Code Section 900 et seq. (a "Government Code Claim").

(B) **Claims over \$375,000.** For any Claim greater than \$375,000.00, if Contractor disputes the City's written response, or City fails to respond within the specified time, Contractor must notify City in writing, either within 30 days of receipt of City's response, or within 30 days of City's failure to respond within the specified time, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. If Contractor fails to dispute City's response, in writing, within the specified times, Contractor's Claim will be deemed waived.

(1) Upon receipt of the demand to meet and confer, City will schedule the meet and confer conference to be held within 60 days, or later if needed to ensure the mutual availability of all of the individuals that each party requires to represent its interests at the meet and confer conference.

(2) The meet and confer conference will be scheduled at a location at or near City's principal office.

(3) For any Claim or any portion(s) of a Claim that remains in dispute following the meet and confer conference, the parties agree to make a good faith effort to resolve the dispute through mediation as a condition precedent to filing a Government Code Claim and initiating litigation.

12.7 Mediation and Government Code Claims.

(A) **Mediation.** Mediation under this Article will be scheduled within 60 days following conclusion of the meet and confer process, with a mediator that the parties mutually agreed upon. The mediation itself may take place more than 60 days following conclusion of the meet and confer process to ensure the mutual availability of the selected mediator and all of the individuals that each party requires to represent its interests. The parties must share the costs of mediation equally, except costs incurred by each party for representation by legal counsel or any other consultant.

(B) **Government Code Claims.**

(1) Timely presentment of a Government Code Claim is a condition precedent to filing any legal action based on or arising from the Contract.

(2) The time for filing a Government Code Claim will be tolled from the time the Contractor submits its written Claim pursuant to Section 12.2, above, until the time

that Claim is denied as a result of the meet and confer process, including any period of time used by the meet and confer process. If the parties agree to mediation pursuant to Section 12.7, below, the time for filing a Government Code Claim will be tolled until conclusion of the mediation by impasse.

- 12.8 Tort Claims.** This Article does not apply to tort claims and nothing in this Article is intended nor will be construed to change the time periods for filing tort-based Government Code Claims.
- 12.9 Arbitration.** It is expressly agreed, under California Code of Civil Procedure Section 1296, that in any arbitration to resolve a dispute relating to this Contract, the arbitrator's award must be supported by law and substantial evidence.
- 12.10 Damages.** Contractor bears the burden of proving entitlement to and the amount of any claimed damages. Contractor is not entitled to damages calculated on a total cost basis, but must prove actual damages. Contractor is not entitled to recovery of any alleged home office overhead. The Eichleay Formula may not be used for any recovery under the Contract. Contractor is not entitled to consequential damages, including home office overhead or any form of overhead not directly incurred at the Worksite; lost profits; loss of productivity; lost opportunity to work on other projects; diminished bonding capacity; increased cost of financing for the Project; extended capital costs; non-availability of labor, material or equipment due to delays; or any other indirect loss arising from the Contract.
- 12.11 Multiple Claims.** In the interest of efficiency, City, acting in its sole discretion, may elect to process multiple Claims concurrently, in which case the applicable procedures above will be based on the total amount of such Claims rather than the amount of each individual Claim. Any such election will not operate to change or waive any other requirements of this Article.
- 12.12 Other Disputes.** The procedures in this Article 12 will apply to any and all disputes or legal actions, in addition to Claims, arising from or related to this Contract, unless and only to the extent that compliance with a procedural requirement is expressly and specifically waived by City. Nothing in this Article is intended to delay suspension or termination under Article 13.

Article 13

Suspension and Termination

- 13.1 Suspension for Cause.** In addition to all other remedies available to City, if Contractor fails to perform or correct work in accordance with the Contract Documents, City may immediately order the Work, or any portion of it, suspended until the cause for the suspension has been eliminated to City's satisfaction.
- (A) **Failure to Comply.** Contractor will not be entitled to an increase in Contract Time or Contract Price for a suspension occasioned by Contractor's failure to comply with the Contract Documents.
- (B) **No Duty to Suspend.** City's right to suspend the Work will not give rise to a duty to suspend the Work, and City's failure to suspend the Work will not constitute a defense to Contractor's failure to comply with the requirements of the Contract Documents.
- 13.2 Suspension for Convenience.** City reserves the right to suspend, delay, or interrupt the performance of the Work in whole or in part, for a period of time determined to be

appropriate for City's convenience, and not due to any act or omission by Contractor or its Subcontractors. Upon notice by City pursuant to this provision, Contractor must immediately suspend, delay, or interrupt the Work as directed by City. The Contract Price and the Contract Time will be equitably adjusted by Change Order to reflect the cost and delay impact occasioned by such suspension for convenience.

- 13.3 Termination for Default.** Contractor may be deemed in default for a material breach of or inability to perform the Contract, including Contractor's refusal or failure to supply sufficient skilled workers, proper materials, or equipment to perform the Work within the Contract Time; refusal or failure to make prompt payment to its employees, Subcontractors, or suppliers or to correct rejected work; disregard of laws, regulations, ordinances, rules, or orders of any public agency with jurisdiction over the Project; or if Contractor lacks financial capacity to complete the Work within the Contract Time; or is otherwise responsible for a material breach of the Contract requirements.

(A) **Notice.** Upon City's determination that Contractor is in default, City may provide Contractor and its surety written notice of default and intent to terminate the Contract.

(B) **Termination.** Within seven calendar days after notice of intent to terminate for default has been given, unless the default is cured or arrangements to cure the default have been made and memorialized in writing, to City's satisfaction, City may terminate the Contract by written notice to Contractor with a copy to Contractor's surety.

(C) **Waiver.** Time being of the essence in the performance of the Work, if Contractor's surety fails to arrange for completion of the Work in accordance with the Performance Bond, within seven calendar days from the date of the notice of termination, Contractor's surety will be deemed to have waived its right to complete the Work under the Contract, and City may immediately make arrangements for the completion of the Work through use of its own forces, by hiring a replacement contractor, or by any other means that City determines advisable under the circumstances. Contractor and its surety will be jointly and severally liable for any additional cost incurred by City to complete the Work following termination. In addition, City will have the right to use any materials, supplies, and equipment belonging to Contractor and located at the Worksite for the purposes of completing the remaining Work.

(D) **Wrongful Termination.** If a court of competent jurisdiction or an arbitrator later determines that the termination for default was wrongful, the termination will be deemed to be a termination for convenience, and Contractor's damages will be strictly limited to the compensation provided for termination for convenience, in Section 13.4, below. Contractor waives any claim for any other damages for wrongful termination including consequential damages, lost opportunity costs or lost profits.

- 13.4 Termination for Convenience.** City reserves the right to terminate all or part of the Contract for convenience upon written notice to Contractor. Upon receipt of such notice, Contractor must immediately stop the Work, comply with City's instructions to protect the completed Work and materials, and use its best efforts to minimize further costs. In the event of termination for convenience, the parties agree that the following will constitute full and fair compensation to Contractor, and that Contractor will not be entitled to any additional compensation:

(A) **Completed Work.** The value of its Work satisfactorily performed to date, including Project overhead and profit based on Contractor's schedule of values;

(B) **Demobilization.** Actual and substantiated demobilization costs; and

(C) **Markup.** Five percent of the total value of the Work performed as of the date of notice of termination or five percent of the value of the Work yet to be completed, whichever is less.

- 13.5 Provisions Remaining in Effect.** Upon termination pursuant to this Article, the provisions of the Contract Documents remain in effect as to any claim, indemnity obligation, warranties, guarantees, submittals of as-built drawings, instructions, or manuals, or other such rights and obligations arising prior to the termination date.

Article 14 Miscellaneous Provisions

- 14.1 Assignment of Unfair Business Practice Claims.** Under Public Contract Code Section 7103.5, Contractor and its Subcontractors agree to assign to City all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the Contract or subcontract. This assignment will be effective at the time City tenders Final Payment to Contractor, without further acknowledgement by the parties.
- 14.2 Provisions Deemed Inserted.** Every provision of law required to be inserted in the Contract Documents is deemed to be inserted, and the Contract Documents will be construed and enforced as though such provision has been included. If it is discovered that through mistake or otherwise that any required provision was not inserted, or not correctly inserted, the Contract Documents will be amended accordingly.
- 14.3 Waiver.** No waiver of a breach, failure of any condition, or any right or remedy contained in or granted by the provisions of the Contract Documents will be effective unless it is in writing and signed by the party waiving the breach, failure, right, or remedy. No waiver of any breach, failure, right, or remedy will be deemed a waiver of any other breach, failure, right, or remedy, whether or not similar, nor will any waiver constitute a continuing waiver unless specified in writing by the waiving party.
- 14.4 Titles, Headings, and Groupings.** The titles and headings used and the groupings of provisions in the Contract Documents are for convenience only and may not be used in the construction or interpretation of the Contract Documents or relied upon for any other purpose.
- 14.5 Statutory and Regulatory References.** With respect to any amendments to any statutes or regulations referenced in these Contract Documents, the reference is deemed to be the version in effect on the date that that bids were due.

END OF GENERAL CONDITIONS

SPECIAL CONDITIONS

1. Insurance.

(A) **Policies and Limits.** The following insurance policies and limits are required for this Contract unless otherwise specified in the *Special Conditions*:

(1) *Commercial General Liability Insurance ("CGL")*: The CGL policy must be issued on an occurrence basis, written on a comprehensive general liability form, and must include coverage for liability arising from Contractor's or its Subcontractor's operations in the performance of the Work, including contractor's protected coverage, blanket contractual, completed operations, vehicle coverage and employer's non-ownership liability coverage, with limits of at least \$2,000,000.00 per occurrence, and \$4,000,000.00 aggregate for the prime contractor and \$1,000,000.00 per occurrence, and \$2,000,000.00 aggregate for any subcontractor.. The CGL policy must name City as an additional insured for all liability arising out of the operations by or on behalf of the named insured, and must protect City, its officers, employees, and agents against any and all liability for personal injury, death, or property damage or destruction arising directly or indirectly in the performance of the Contract. The additional insured endorsement must be provided using ISO form CG 20 10 11 85 alone, or both forms CG 20 10 10 01 and CG 20 37 10 01. The CGL coverage may be arranged under a single policy for the full limits required or by a combination of underlying policies with the balance provided by excess or umbrella policies, provided each such policy complies with the requirements set forth herein.

(3) *Workers' Compensation Insurance and Employer's Liability*: The policy must comply with the requirements of the California Workers' Compensation Insurance and Safety Act, with of at least \$1,000,000.00. If Contractor is self-insured, Contractor must provide its Certificate of Permission to Self-Insure, duly authorized by the Department of Industrial Relations.

(4) *Automobile Liability*. The automobile liability policy must provide coverage of at least \$1,000,000 combined single-limit per accident for bodily injury, death or property damage.

(B) **Notice.** Each certificate of insurance must state that the coverage afforded by the policy or policies will not be reduced, cancelled or allowed to expire without at least 30 days written notice to City, unless due to non-payment of premiums, in which case ten days written notice must be made to City.

(C) **Waiver of Subrogation.** Each required policy must include an endorsement providing that the carrier agrees to waive any right of subrogation it may have against City.

(D) **Required Endorsements.** The CGL Policy must include the following specific endorsements:

(1) The inclusion of more than one insured will not operate to impair the rights of one insured against another, and the coverages afforded will apply as though separate policies have been issued to each insured.

(2) The insurance provided by Contractor is primary and no insurance or self-insurance held or owned by City, its officers, officials, employees or volunteers may be called upon to contribute to a loss. Any insurance or self-insurance held

or owned by City, its officers, officials, employees and volunteers is excess to Contractor's insurance and may not be called on to cover or contribute to any loss covered by Contractor's insurance.

(3) This policy does not exclude explosion, collapse, underground excavation hazard, or removal of lateral support.

(E) **Subcontractors.** Contractor must ensure that each Subcontractor is required to maintain the same insurance coverage required under this Section 4.3, with respect to its performance of Work on the Project, including those requirements related to the additional insureds and waiver of subrogation. Contractor must confirm that each Subcontractor has complied with these insurance requirements before the Subcontractor is permitted to begin Work on the Project. Upon request by the City, Contractor must provide certificates and endorsements submitted by each Subcontractor to prove compliance with this requirement. The insurance requirements for Subcontractors do not replace or limit the Contractor's insurance obligations.

(F) **Deductibles and Self-Insured Retentions.** Any deductibles or self-insured retentions that apply to the required insurance (collectively, "deductibles") are subject to approval by City, acting in its sole discretion, and must be declared by Contractor when it submits its certificates of insurance and endorsements pursuant to this Section 4.3. If City determines that the deductibles are unacceptably high, at City's option, Contractor must either reduce or eliminate the deductibles as they apply to City and all required additional insured, as stated in subsection 4.3(A)(1), above; or must provide a financial guarantee, to City's satisfaction, guaranteeing payment of losses and related investigation, claim administration and legal expenses.

2. Submittals. The submittals checked below must be submitted to the Engineer at or before the pre-construction conference to be reviewed for general conformance with the Contract Documents. If exceptions are taken, re-submittal may be required before the Work may begin. The Engineer's review does not relieve the Contractor or its Subcontractors of responsibility for verifying dimensions, coordination, performance, or accuracy.

Baseline (as-planned) schedule. (See General Conditions section 5.2.)

Name and contact information for Contractor's authorized onsite representative, including cell phone, email address and home phone number.

Emergency contact list with names and phone numbers, including cell phone numbers, for at least three representatives who can be reached after hours.

The names and titles of each individual authorized to sign Change Orders and any other legally binding documents on behalf of Contractor.

The name and address of each Subcontractor not already listed on the Subcontractor List form, including a description and cost information for the portion of the Work by each Subcontractor and the Subcontractor's DIR registration number.

An equipment list which includes a description, identification number, make, model number, and other relevant information for each piece of equipment to be used on the Project.

Proposed truck and hauling routes.

A draft copy of the proposed Notification to residents within the Project area.

Water Pollution Control Program.

Submittal schedule, listing description, supplier, source, and target dates for submission of all required submittals. The dates must be coordinated with the baseline schedule and related items should be submitted at the same time.

3. **Caltrans Standard Specifications.** Work shall be done in accordance with the State of California Department of Transportation most up-to-date Standard Specifications and Standard Plans of the State of California Department of Transportation and City of San Pablo Standard Plans insofar as they apply and in accordance with the following Special Provisions.

4. **Hours of Work:** Except as expressly authorized in writing by City, working hours and days are defined as the hours of 8:00 a.m. to 5:00 p.m., Monday through Friday. Night work is not allowed. Work on Saturdays, Sundays and established City Holidays (included in Appendices) shall not be allowed without prior written consent by the City.

Business hours and days are defined as normal City Hall office hours (7:30 a.m. to 6:00 p.m., Monday through Thursday). City inspections, procurement of permits, submittals and other City related businesses will be provided during this time. The contractor may request for inspections on a Friday four business days prior to the requested date.

Other restrictions on hours will remain in effect, including lane closure time limitations as required by the contract documents and labor code requirements.

5. **Examination of Contract Documents and Site of Work.** Attention is directed to the Instructions to Bidders, Section 2 "Examination of Contract Documents and Project Site". City has obtained report 2388-4C Wildcat Creek Study - Report. The report may contain facts that may materially affect bidders' bids. Bidders are strongly encouraged to inspect all of City's reports, records and documents referred to above. Said reports and documents will be made available upon written request at *City Hall Building 3 Public Works Department* for inspection and copying at bidders' sole cost and expense, during City Hall business hours, or may be viewed on the City's website.

6. **Minimum Standards and Inspection.** These documents reference minimum standards. If Federal, State or other governing codes or standards are more stringent, the more stringent requirements will apply. Notwithstanding that work or materials have been previously inspected by the Engineer or that payment thereof has been included in a progress payment, Contractor is not relieved from constructing the project in conformance with applicable codes or standards.

The Inspector authorized by the City/Engineer shall inspect the work and enforce the contract documents. Inspector will not be available on site during all construction activities, and Contractor shall schedule necessary inspections a minimum of 2 business days in advance.

In the event that Inspector notices an eminently unsafe condition, or in an emergency, Inspector shall have authority to stop work. Contractor shall not be entitled to delay claims for stoppage of unsafe work or work not performed in conformance with the Contract Documents.

The Inspector shall, at all times, have safe access to the work during its construction, and shall be furnished with every reasonable facility for ascertaining that the materials and the workmanship are in accordance with the requirements and intentions of these specifications, the special provisions and the plans. All work done and all materials furnished shall be subject to the Engineer's inspection.

Projects financed in whole or in part with Federal funds shall be subject to inspection at all times by the Federal agency involved.

The City may also arrange for the Contra Costa County Traffic Signal Maintenance Dept. to inspect and provide technical consultation on traffic signal related work. The County Traffic Signal representative's role during construction shall be limited to making recommendations to the City, and they shall not have authority to approve or reject work, or interpret the Contract Documents.

The City may also arrange for an Independent Testing Lab to perform quality assurance work and/or Special Inspections, where required by the Plans. The Testing Lab or Special Inspector's role during construction shall be limited to making recommendations to the City, and the Testing Lab or Special Inspector shall not have authority to approve or reject work, or interpret the Contract Documents.

Separate and independent from the inspection above, the project may require building, electrical or other inspections by City Building Officials for code compliance, as indicated elsewhere in these documents. Such inspectors shall have the authority provided to them by local ordinances, regulations and/or practices.

Inspections may also be required by water, sewer, telephone and other utility companies. Such inspectors shall have the authority to inform the Contractor of any failure of the Work or materials to conform to their standards. In the event the Contractor does not take action to correct any such failures, the City Inspector shall have the authority to stop the work in question, and will confirm such action in writing. Contractor shall not be entitled to delay damages for stoppage of work not performed in conformance with utility company requirements.

It is the contractor's responsibility to request any and all inspections required for completion of the project.

7. **Final Pay Quantities.** When the estimated quantities for a specific portion of the work are designated on the bid sheets as final pay quantities, said estimated quantities shall be the final quantities for which payment for such specific portion of the work will be made, unless the dimensions of said portions of the work shown on the plans are revised by the City Engineer. If such dimensions are revised, and such revisions result in an increase or decrease in the quantities of such work, the final quantities for payment will be revised in the amount represented by the changes in the dimensions. The estimated quantities for such specific portion of the work shall be considered as approximate only and no guarantee is made that the quantities which can be determined by computations, based on the details and dimensions shown on the plans, will equal the estimated quantities. No allowance will be made in the event that the quantities based on computations do not equal the estimated quantities.

When portions of an item have been designated on the bid sheets as final pay quantities, portions not so designated will be measured and paid for in accordance with the applicable provisions of these Specifications and the Special Provisions

8. **Monument Protection.** Monuments placed by surveyors must be preserved, in accordance with State Business & Professions Code section 8771.

For projects where the Plans indicate a known monument will be disturbed and replaced, the existing monument, typically consisting of a concrete core and brass tack, nail or other marking device located inside of a survey monument cover with frame, shall not be

disturbed until the Contractor has arranged for establishment of reference points to preserve the location of the monument by a licensed surveyor.

The Contractor shall also not disturb other monuments that may/may not be shown on the plans including railroad spikes, brass tacks, nails or other markers set by surveyors, and shall advise the City upon discovery of these monuments to determine how they shall be preserved. The Contractor shall exercise caution when working around monuments so as not to disturb them. During milling, grinding, excavation or other operations, the Contractor shall work around survey monuments unless specifically otherwise indicated on the Plans. If a monument is disturbed or damaged during adjusting, milling or other operations, the Contractor shall be responsible for all costs associated with the reestablishment of the monument including but not limited to surveying performed by a Licensed Surveyor, filing required documents with County and constructing the new monument in accordance with appropriate Contra Costa County Standards.

9. **Dust Control.** The Contractor shall comply with air pollution control rules, regulations, ordinances, and statutes that apply to work performed under the Contract, including air pollution control rules, regulations, ordinances, and statutes provided in Govt Code § 11017 (Pub Cont Code § 10231). The contractor shall prevent and alleviate dust by applying water, dust palliative or both, and by covering active and inactive stockpiles. All dust control shall be in conformance with State Standards Specifications Section 14-9.03, Dust Control.
10. **Notification of Residents and Businesses.** Prior to the start of work, the Contractor shall notify each residence and each business located at the project site/project area of the planned work schedule. Notices shall be in writing, in both English and Spanish, shall include contact information/telephone numbers for both the contractor and the city representative and shall be delivered at least 3 working days prior to the start of any work which may affect access to the residence or business for traffic, deliveries, workers or pedestrians; a Sample model letter to residents is included in the appendix. Contractor shall submit to city signed confirmation that notices were delivered, confirming range of addresses and time of delivery. *For projects that will include the installation of street sweeping signs, the Contractor shall include information about such installation with the notification along with information about the street sweeping schedule and ticketing. Schedule information will be provided by the City Engineer.*

Notices must be approved by the City Engineer prior to delivery, and shall include the estimated project schedule, the extent of the project and names and contact information for the contractor and the City. Contractor shall provide confirmation that the residents and businesses received said Notice. For multi phase projects, contractor shall notify businesses and residents at the beginning of each phase

Temporary NO PARKING signs shall be set up 72 hours in advance (but no earlier than 96 hours in advance) of any parking restrictions, and shall be removed promptly when no longer needed, including periods when work will not be occurring for one week or more. The Contractor shall provide, erect, and maintain NO PARKING signs.

11. **Record Drawings/ As-Built Plans.** The Contractor shall keep a set of project plans at the Project site which shall be used only as Project Record Drawings. These shall include Contract Drawings, wiring diagrams, and other shop drawings. The Contractor shall update the drawings daily, and shall review changes to the drawings with the Engineer at the end of each week's work. The drawings shall be clearly marked by the Contractor with changes from the Contract Drawings and Specifications, and exact as-built locations of the improvements constructed. Dimensions shall be shown from a minimum of 2 permanent points of reference (such as building corners or monuments) for the following items\:

New and existing underground utilities, including sewer laterals
Monuments and benchmarks
Water meters and connections to water source
Irrigation pipelines, valves, conduit, wiring and controllers
Electric meters
Electrical conduits and wiring
Traffic signal conduits, wiring, loops and controllers
Other items as directed by the Engineer

The Contractor shall submit current prints of the record set to the Engineer once per month. Engineer's Estimates for payment will not be processed until current record drawings are received and accepted.

At the completion of the job, as a punch list item, the Contractor shall submit As-Built plans to the Engineer in legible format, utilizing red markings to show changes or corrections to the plans to reflect the as-built dimensions or conditions. The As-Built plans shall be submitted on untorn, clean, full-size project plans (blueprints or bond xerox).

12. **Controller Charts.** The Contractor shall submit charts showing the areas covered by each irrigation controller. Area of each valve coverage shall be color coded, and the valve sequence shall be enlarged to be readable when the drawing is reduced in size. These drawings shall be reduced to 8-1/2x11 inches in size and sealed between two 20-mil plastic sheets. Two copies of each controller chart shall be submitted.

The project will not be recommended to City Council for acceptance, and the final payment to the Contractor will not be processed until the as-built plans, controller charts, and reduced irrigation drawings are received and accepted.

13. **Water Pollution Controls.** A Water Pollution Control Program must be submitted and accepted by the City Engineer prior to the start of work, unless a SWPPP is required per these Special Provisions.

The Contractor shall take all measures necessary to keep all substances used in or resulting from his work out of the gutters, storm drains and creeks. To this effect, the Contractor shall employ the "Best Management Practices (BMP's) for Construction and New Development" required by the City, and, when a SWPPP is included in these Special Provisions, Contractor shall comply with the SWPPP. Contractor shall maintain all temporary erosion and/or sediment controls, including removing sediment trapped at storm drain inlets as needed after rain so that said inlets remain functional.

A fine of \$500 shall be assessed to the Contractor for each calendar day when the measures are not properly installed or maintained, as determined by the Engineer.

14. **Maintaining Traffic, Public Convenience and Public Safety.** Attention is directed to State of California Department of Transportation Standard Specifications Sections 7.1.03, "Public Convenience;" 7.1.04, "Public Safety;" and 12, "Temporary Traffic Control

".

State of California Department of Transportation Standard Specifications Section 12-1.03, "Flagging Costs" is modified here to provide that all flagging costs shall be included in the prices paid for the various contract items of work and no additional compensation will be allowed therefor.

All sections of the California Vehicle Code shall be in full effect except as provided hereinafter. Section 591 and any other section excluding roads under construction from certain requirements of the Vehicle Code shall be in effect only as permitted by the City Engineer. The Engineer's permission shall not be construed to relieve any person from the duty of exercising due care.

Two lanes of traffic (one lane in each direction minimum 10 feet per lane) shall be open to vehicular traffic for the entire length of the project at all times, unless otherwise approved by the City Engineer. Striping and/or cones and barricades properly marked shall be used to delineate the traffic lanes. Access to driveways shall be maintained at all times. No traffic lanes may be closed before 9:00 a.m. or after 3:30 p.m. without written permission from the City Engineer.

When entering or leaving roadways which bear public traffic, the Contractor's equipment, whether empty or loaded, shall in all cases yield to public traffic.

The use of florescent traffic cones to direct traffic away from excavations shall be considered lane closure. When traffic cones or delineators are used to delineate a temporary edge of traffic lane, the line of cones or delineators shall be considered to be the edge of traffic lane, however, the Contractor shall not reduce the width of an existing lane to less than 10 feet without written approval from the Engineer.

When work is not in progress on a trench or other excavation that requires closure of an adjacent lane, the traffic cones or portable delineators used for the lane closure shall be placed off of and adjacent to the edge of the traveled way. The spacing of the cones or delineators shall be not more than the spacing used for the lane closure.

It shall be the contractor's responsibility to maintain public facilities and roadways adjacent to the project site free of all construction debris. Dirt, gravel, asphalt, or other materials from delivery or haul trucks shall be removed from such facilities and roadways on a daily basis, or as directed by the City Engineer

The provisions in this section may be modified or altered if, in the opinion of the City Engineer, public traffic will be better served and work expedited. Such modifications or alterations shall not be adopted until approved in writing by the City Engineer. All hauling on City streets shall be on a haul route approved by the City Engineer.

- 15. Permits and Licenses.** For public right-of-way construction work, the Contractor shall procure all permits and licenses, pay all charges and fees and give all notices necessary and incidental to and necessary to the lawful performance of the work.

City of San Pablo permits which may be required, but are not necessarily limited to, include a building permit, overload or transportation permit, encroachment permit, grading permit, C.3 permit, NPDES permit, certificate of occupancy. City permit fees will be waived for work on this project. The Contractor shall be responsible to schedule inspections for each permit, if applicable.

When permits from other agencies (e.g. Caltrans, Contra Costa County, Dept. of Fish & Game) or Utility companies (e.g. PG&E, EBMUD, WCWD) are required for the Work and/or included in the appendix in these Special Provisions, Contractor shall be responsible to comply with all permit conditions and inspection requirements. Upon completion of the work, Contractor shall obtain written documentation from the respective agency or utility company that permit is finalized/closed out and accepted, and submit it to the City.

Temporary use permit(s) - it shall be the responsibility of the contractor to obtain temporary use permits for the use of any private property as a staging area, equipment and/or material

storage yard, etc. Use permit conditions will vary and the contractor should contact the City of San Pablo Planning Department for specific requirements prior to submitting a bid. No work shall commence without these permits or licenses. Contractor shall comply with all conditions of the permits.

16. **Construction Staking.** Construction staking shall be provided by the contractor and all costs related thereto shall be included in the unit costs for each item requiring staking. The City Engineer shall be the sole judge of the sufficiency of any construction stakes and the need thereof. All construction staking shall be provided under the direction of a professional land surveyor licensed in the State of California, who shall submit evidence of such license to Engineer.
17. **Construction Details.** Contractor is advised that where no pay item is listed in the bid schedule, the cost for the work described in these Construction Details, plans and specifications shall be considered as included in the prices paid for the various contract items of work involved and no additional compensation will be allowed therefore.
18. **Monitoring Wells.** Contractor must coordinate with the City's Environmental Programs Analyst for the installation of monitoring well(s) during the initial excavation for bioswale construction. The construction of monitoring well(s) will be constructed and funded through a separate project.

END OF SPECIAL CONDITIONS

Article 15
R

Article 16 Technical Provisions

16.1 General

16.1.01 General

The Bid Items are presented to indicate major categories of the work for purposes of comparable bid analysis and payment breakdown for monthly progress payments. Bid items are not intended to be exclusive descriptions of work categories, and the Contractor shall be deemed to have included in its pricing all staging, materials, multiple handling, labor, and equipment to complete the entire project as shown and specified, regardless of whether a specific pay item is provided.

Contractor is advised that where no pay item is listed in the bid schedule, the cost for the work described in these Construction Details, plans and specifications shall be considered as included in the prices paid for the various contract items of work involved and no additional compensation will be allowed therefor. In addition, the Contractor is advised that any and all General Conditions costs (including, but not limited to, project overhead, office overhead, indirect costs, project management and supervision, and incidentals) shall be considered as included in the prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

The Contractor shall take all reasonable precautions to restrict operations to the least area of work possible and shall not disturb private property beyond the areas of work.

16.1.02 Pre-Job Orientation

The Contractor and Contractor's Project Superintendent shall meet with City Staff and the Engineer for a pre-construction meeting, as noted in Section 4.2 of these special provisions, before the commencement of work. Full compensation for complying with this provision is considered to have been included in the various bid items and no additional compensation shall be allowed.

The Contractor shall post "No Parking" signs in residential areas seventy two (72) hours prior to his commencement of work.

16.1.03 Order of Work and Progress Schedule

Construction phasing shall be discussed with the City during the preconstruction meeting. Contractor shall then work with the City to develop a set of formal phasing plans.

The Contractor shall prepare and submit a traffic control plan, work plan and progress schedule in accordance with 8-1.02, "Schedule" of the State Standard Specifications and in a form provided by, or acceptable to, the Engineer and shall also prepare and submit a Traffic Control Plan.

The above items shall clearly disclose the contractors proposed procedures and methods of operation, including identifying any special equipment intended for use on the project and his method of handling traffic.

The Contractor shall allow ten (10) working days for review and approval of each of these items by the Engineer, which will be counted concurrently if all items are submitted simultaneously.

No work may begin under contract until the progress schedule and Traffic Control Plan have been approved by the Engineer. Time required for review and approval of these items shall not constitute a basis for time extension.

It will be the responsibility of the Contractor to arrange for the towing and removal of any vehicles which have not been removed by the owner and which interfere with any operations. Full compensation for the removal of the vehicles shall be considered as included in the price paid for the various items of work and no additional compensation will be allowed therefor.

16.1.04 Existing Facilities/Cooperation

Attention is directed to Sections 5-1.36D "Non highway Facilities" of the State Standard Specifications.

It is not the intent of the plans to show the exact location of existing or relocated utilities, and the Engineer assumes no responsibility therefor. Whenever any such utilities are indicated thereon, the Contractor shall be responsible for verifying their actual location and depth in the field. Where excavation deeper than eight inches is contemplated, the Contractor shall notify Underground Service Alert at (800) 642-2444 (or dial 811) prior to excavation.

Where excavations are performed in the vicinity of underground utility mains and/or services the Contractor shall, as necessary, perform initial exploratory excavations to determine their exact depth and location. Extreme care shall be exercised to avoid damage, and it will be the Contractor's responsibility to have repairs made to existing facilities at his/her expense in the event of damage.

Prior to placing of asphalt concrete it shall be the Contractor's responsibility to notify the utility agencies in advance of paving operations so that the affected agencies can be prepared to reset covers to grade following paving.

Utility Companies may raise their frame and covers during resurfacing operations or as otherwise provided in these specifications. The Contractor shall cooperate with these utility companies.

In the event that work by others causes delay in the Contractor's operation, the Contractor will be granted a time extension but shall not be entitled to delays per Section 8-1.07 of the State Standard Specifications due to the progress or operations of the utility project mentioned previously. No extensions will be granted in case the Contractor fails to provide adequate notice to Utilities for performing their work.

A pavement analysis report has been conducted by Associated Engineering Consultants at the project site. This report is available for review at the City of San Pablo, Department of Public Works. The data shown in the reports are for conditions found at the time and place of the investigation.

The City disclaims responsibility for the bidder's interpretation of data, such as projecting or extrapolating from the test holes to other locations on the site of the work and for the accuracy or completeness of the report.

Full compensation for complying with the above provisions shall be considered as included in the contract price for the various bid items and no separate payment will be made.

16.1.05 Preservation of Property

Attention is directed to the provisions in Section, 5-1.36, "Property and Facility Preservation," of the State Standard Specifications and these Special Provisions.

The Contractor will make a thorough investigation of the job site and size equipment accordingly. The Contractor shall select equipment to avoid damaging existing facilities, which include, but are not limited to: street paving, traffic controls, sidewalks, curbs and gutters, etc. The Contractor at no cost to the City shall restore any damage caused by oversized equipment.

Full compensation for complying with the above provisions shall be considered as included in the contract price for the various bid items and no separate payment will be made.

16.1.06 Submittals

The Contractor shall provide submittals for all materials, product data, working/shop drawings, diagrams, schedules, or other data prepared by the Contractor in accordance to the Contract requirements. The submittals shall not modify any Contract requirement.

The Contractor shall provide a certificate of compliance from its material suppliers, in advance of the work, that each conforms to the requirements of these specifications. The Contractor shall also furnish to the City in triplicate, certified copies of all factory and mill test reports when required by the Engineer. The Certificate shall be signed by the manufacturer of the material. The City reserves the right to refuse to permit the use of material on the basis of a Certificate of Compliance alone.

The list of technical submittals, listed below, shall be submitted to the Engineer for review and approval at the time of pre-construction meeting:

- Health & Safety Plan
- Detailed project schedules in critical path format for the entire project (including each phase)
- Traffic Control Plans for each stage of work
- Traffic control supervisor proof of certification
- Construction site Best Management Practices (BMP's) for compliance with the Storm Water Pollution Prevention Plan (SWPPP)
- Location of proposed staging/ storage areas
- Storm Drain Pipe
- Sanitary Sewer Pipe
- Drainage Inlet
- Concrete pipe
- HMA Mix design
- Concrete Mix design
- Class II Aggregate Base
- Truncated dome detectable warning surface tiles
- Truncated dome installation certificate
- Traffic Stripes, pavement markings and pavement marker materials (including materials for temporary pavement delineation)
- Plant acquisition
- Bio-retention Soil
- Pavement Reinforcing Fabric
- Metal Beam Guard Rail

Submittals shall be shown on the schedule and shall not be critical path items of work.

All Contractor required submittals, except as noted, shall be reviewed by the Engineer and returned to the Contractor within 10 working days from the date of receipt by the Engineer. In addition, the Contractor shall allow the City identical time periods for any rejected submittals that are re-submitted for approval.

The Engineer's review of Contractor shop drawing submittals shall not relieve the Contractor of the entire responsibility for the correctness of details and dimension. The Contractor shall assume all responsibility and risk for any misfits due to any errors in Contractor submittals. The Contractor shall be responsible for the dimensions and the design of adequate connections and details. Acceptance by the Engineer of a substitute item proposed by the Contractor shall not relieve the Contractor of the responsibility for full compliance with the Contract Documents and for adequacy of the substitute item.

Full compensation for complying with the above provisions shall be considered as included in the contract price for the various bid items and no separate payment will be made.

16.1.07 Mobilization

A. Description. The Contractor will provide labor, materials and equipment to prepare the site for the timely start and efficient completion of all work. This includes obtaining any necessary licenses and permits, providing required submittals including but not limited to a Project Schedule and a Stormwater Pollution Prevention Plan. Refer to Section 4.5 "Submittals" and Section 10.1.11 "Stormwater Pollution Prevention".

B. Measurement & Payment. The contract lump sum price paid for **Mobilization (Bid Item #1.01)** shall include full compensation for providing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in Mobilization, complete in place, as shown on the plans, specified in the Standard Specifications and these Special Provisions, and as directed by the City Engineer.

Payment will be made in accordance with the Standard Specifications 9-1.16D, "Mobilization". No payments will be made until City accepts submittals. **Maximum compensation allowed for mobilization on this project will be \$25,000.00.**

16.1.08 Clearing, Grubbing & Removals

A. Description. Clearing and grubbing shall conform to the provisions in Section 16, "Clearing and Grubbing," of the State of California Department of Transportation Standard Specifications and these Special Provisions. Demolition work shall conform to the provisions in Section 15, "Existing Facilities," of the State of California Department of Transportation Standard Specifications and these Special Provisions.

This work shall consist of removing all objectionable material from within the limits of the project as specified, including weeds along cracks, joints, and gutter lip. The limits of clearing and grubbing shall be of sufficient area and depth to complete the work as shown on the plans or described in these Special Provisions. Weed removal shall be accomplished by method(s) that result in complete removal of the weed; method used must be approved by the City Engineer. Surface and crack cleaning shall be accomplished by sweeping, and not by air blowers.

Existing pavement markers shall be removed in accordance with Section 15-2.02D of the State Standard Specifications. Existing thermoplastic pavement markings and stripes shall be removed in accordance with Section 15-2.02C of the State Standard Specifications and all applicable state laws and regulations. Contractor shall accurately measure and note locations of existing pavement markers, striping, and markers so that they may be replaced in kind in the same locations.

Nothing herein shall be construed as relieving the Contractor of his responsibility for final cleanup of the highway as provided in Section 4-1.13, "Cleanup," of the State of California Department of Transportation Standard Specifications.

B. Measurement. Shall be by lump sum for all scope under this section.

C. Payment. Payment for **Clearing, Grubbing & Removals** shall be by lump sum. The lump sum price bid for **Clearing, Grubbing & Removals (Bid Item #1.02)** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in preparing the site for the project improvements. **Maximum compensation allowed for this item on this project will be \$30,000.00.**

16.1.09 Construction Layout

A. Description. The work in this section includes the furnishing of all labor, equipment, materials, tools, and incidentals and performing all operations in connection with construction survey and layout and all work necessary to provide for proper layout of the work, and detail necessary to define construction layout and staking requirements of this project.

Contractor shall be responsible to set control points/lines at the work site, and provide and establish the construction staking for all improvement work shown on the Contract Drawings. It shall be the Contractor's responsibility to layout the work from the information shown on the Contract Drawings.

B. Measurement. None.

C. Payment. Payment for Construction Layout shall be considered as included in the prices bid for the various items in the Bid Proposal and shall be considered as full compensation for all labor, materials, tools, and incidentals and no additional compensation shall be made.

16.1.10 Dust Control

A. Description: The Contractor's attention is directed to Section 14-9.03, "Dust Control," of the State Standard Specifications. The Contractor shall be responsible for dust control within the project limits. The Contractor shall diligently control dust resulting from his operations and from public traffic passing through the work area by the application of water and/or dust palliative. Dust palliative shall conform to Section 18, "Dust Palliative," of the State Standard Specifications.

Contractor shall use equipment that would generate the least amount of dust.

The Contractor shall provide dust control at all times including Saturdays, Sundays, and holidays as ordered by the Engineer. Whenever the Contractor shall appear negligent in controlling dust, the Engineer may direct attention to the existence of a dust hazard and instruct the Contractor to immediately alleviate the dust hazard. Contractor shall be responsible for any damage caused by dust generated as a result of his operation.

B. Measurement. None.

C. Payment: Full compensation for complying with the above provisions shall be considered as included in the contract price for the various bid items and no separate payment will be made.

16.1.11 Stormwater Pollution Prevention

PART 1 - GENERAL

- A. Description: Within one week after awarding of project, the Contractor shall prepare Storm Water Pollution Prevention Plan and submit to Engineer for approval, as listed in Caltrans Standard Specifications-2010, Section 15. Also, refer to Section 16.06 of these Special Provisions for the submittal requirements.

B. SUBMITTALS

The Contractor shall provide a Stormwater Pollution Prevention Plan (SWPPP) and, in coordination with the City of San Pablo, file a Notice of Intent to Discharge (NOI) with the Regional Water Quality Control Board (RWQCB). The Contractor is required to provide a Qualified SWPPP Practitioner (QSP) for adherence to the SWPPP during construction activities. The Contractor-provided QSP shall coordinate with the City and be responsible for submitting all required documentation to the RWQCB (SMARTS system) during construction activities.

- B. Measurement. None.

- C. Payment: Payment for **Stormwater Pollution Prevention Plan** shall be by lump sum. The lump sum price bid for **Stormwater Pollution Prevention Plan (Bid Item #1.03)** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in preparing the plan, and revisions as needed for approval. **Maximum compensation allowed for this item on this project will be \$2,000.00.**

16.1.12 Existing Street Facilities

A. Description. Existing street facilities shown on the plans or marked in the field to be removed shall be removed in accordance with the provisions of Section 15, "Existing Facilities", of the State Standard Specifications, the contract drawings, these special provisions, and as directed by the Engineer.

Existing facilities to be removed may not all be shown on the plans. Facilities to be removed shall be marked in the field by the Engineer.

B. Measurement and Payment. Compensation for removing of asphalt concrete pavement, base rock, sidewalk, driveway, curb ramp, valley gutter and various curbs and gutters shall be considered as included in Bid Schedule Section 2 Demolition and the various contract prices paid for the applicable bid items and shall include full compensation for furnishing all labor, materials, tools, equipment, incidentals, and for doing all work involved in removal of sidewalk, driveway, curb and gutter, complete in place, including but not limited to excavation, removal and disposal of excess materials including sawcutting, and root cutting, as shown on the contract plans, as specified in the Standard Specifications, these specifications, and as directed by the Engineer and no additional compensation will be allowed therefor.

The contract unit price paid for any Tree Trimming, Tree Removal, and Tree Stump Removal shall be included in your items listed under Bid Schedule Section 2 Demolition and include full compensation for furnishing all labor, materials, tools, equipment and incidentals required to remove tree and tree stump; including grinding of the stump, excavation, backfill, removal and disposal of roots and debris, as shown on the plans, specified in these Special Provisions, and directed by the Engineer.

16.1.13 Traffic Control and Construction Area Signs

A. Description. A traffic control system shall consist of closing traffic lanes in accordance with the project plans, and other applicable details shown on T-11 through T-14 of the Standard Plans, the provisions of Section 12, "Temporary Traffic Control" of the Standard Specifications, and these Special Provisions. All traffic control plans proposed by the Contractor shall be reviewed and approved by the City Engineer prior to implementation.

The provisions in this section will not relieve the Contractor from his responsibility to provide such additional devices or take such measures as may be necessary to comply with the provisions in Section 7-1.04, "Public Safety," of the Standard Specifications.

Each vehicle used to place, maintain, and remove components of a traffic control system on multilane highways shall be equipped with a Type II flashing arrow sign which shall be in operation when the vehicle is being used for placing, maintaining, or removing said components. The sign shall be controllable by the operator or the vehicle while the vehicle is in motion.

If any component in the traffic control system is displaced, or ceases to operate or function as specified, from any cause, during the progress of the work, the Contractor shall immediately repair said component to its original condition or replace said component and shall restore the component to its original location.

When lane closures are made for work periods only, at the end of each work period, all components of the traffic control system, except portable delineators placed along open trenches or excavation adjacent to the traveled way, shall be removed from the traveled way and shoulder. If the Contractor so elects, said components may be stored at selected central locations, approved by the City Engineer, within the limits of the highway right of way.

No traffic lanes may be closed before 9:00 a.m. or after 3:00 p.m. without written permission from the City Engineer except for the temporary construction area as allowed by approved plans; such closure shall be removed immediately after the completion of the work.

To minimize the disruption to public traffic, the Contractor shall:

1. Permit local traffic to pass through the work with the least possible inconvenience or delay.
2. Maintain existing driveways, commercial and residential, within the vicinity of the work area, keeping them open and in good, safe condition at all times.
3. Restricted access to driveways shall not be more than 4 hours.
4. Remove or repair any condition resulting from the work that might impede traffic or create a hazard.
5. Keep existing traffic signal and roadway lighting systems in operation throughout the construction work.

To protect the right of abutting property owners, the Contractor shall:

1. Conduct the construction so that the least inconvenience as possible is caused to abutting property owners.
2. Maintain ready access to houses or businesses along the line of work, including ramps over bypass.
3. Notify all parties as specified in these Special Provisions.

Where grading work is being performed on the roadway to be used by traffic, the Contractor shall complete the work to the finished grade before the end of the workday unless otherwise directed by the Engineer.

The Contractor shall be responsible for providing adequate safeguards, safety devices, protective equipment, and any other needed actions to protect life, health, and safety of the public, and to protect property in connection with the performance of the work covered by the contract. The Contractor shall perform any measures or actions the City or the Engineer may deem necessary to protect the public and property.

The full width of the traveled way shall be open for use by public traffic on Saturdays, Sundays and designated legal holidays, and when construction operations are not actively in progress.

Minor deviations from the requirements of this section concerning hours of work which do not significantly change the cost of the work may be permitted upon the written request of the Contractor if in the opinion of the Engineer public traffic will be better served and the work expedited. Such deviations shall not be adopted until the Engineer has indicated his written approval. All other modifications will be made by contract change order.

ADVANCE PUBLIC NOTIFICATION

General Notifications - The Contractor shall be required to notify and cooperate with the public, transit companies, local law enforcement agencies, local fire districts, local utilities companies, refuse collectors, schools, and any other persons or agencies who may be affected by this project at least two (2) weeks prior to construction. Other notifications may be required during project construction as outlined below.

Notifications will be provided by the Contractor relating to, but not limited to, the following items:

- General information
- Traffic delays and alternate routes
- Tree removals and/or trimming
- Driveway closures
- Water service interruptions
- Temporary relocation of bus stops
- Adjustment of utilities
- Waste pick up

Two weeks, one week and 24 hours prior to beginning any work in an area, the Contractor shall distribute an approved written notice to all adjoining residents and businesses, property owners, tenants and applicable parties. Such notice shall state that all vehicles and equipment need to be moved off of the street and include the expected date for start of construction, a general description of the construction activity to take place, expected duration of the activity, and the name, address, and 24-hour telephone number of the Contractor. A draft copy of the notice shall be provided to the Engineer for approval, prior to distribution.

Five working days prior to construction activities the Contractor shall notify the City Engineer.

Notice shall be given for general construction activity in an area as well as specific activities which will, in any way, inconvenience the resident/property owner or affect their operations or access to their property.

The Contractor shall maintain a 24-hour cellular telephone. The Contractor shall check for messages at least once every twelve hours, seven days a week, including weekends and holidays.

The Contractor shall respond promptly to all calls. The cost of maintaining the 24-hour telephone as herein specified shall be considered as included in the various other contract items and no additional compensation shall be allowed therefor.

Traffic control shall be coordinated for the minimum inconvenience and maximum safety of the public during the construction period. The Contractor shall bear full responsibility for maintaining traffic control during the construction period. Contractor shall maintain traffic circulation at all times during the project. "No Parking" signs shall be posted 72 hours prior to start of work.

Door hanger notifications to affected residents and businesses for this project will be delivered a minimum of 72-hours prior to paving operations.

If paving operations have been postponed or cancelled with no work in the proposed area for more than seven (7) calendar days, the Contractor shall re-notify the affected residents and businesses with new door hangers a minimum of two (2) working days prior to the start of the work.

The Contractor shall maintain an updated and chronological record at the job site of all written notifications along with a list of recipients. Such records shall be made available upon request by the Engineer.

Failure to comply with the above notification requirements could result in cancellation by the Engineer, of the day's work. No extension of time or additional cost will be granted for delays to the Contractor caused by any work cancellations.

No work shall take place prior to the required notification, re-notification, or coordination work with affected facilities.

The adjustment provisions in Standard Specifications 4.1.03, Changes, shall not apply to the item of traffic control system. Any adjustment in compensation for traffic control systems due to an increase or decrease in the amount of traffic control system required by changes ordered by the City Engineer will be made on the basis of the cost of the increased or decreased traffic control necessary. Such adjustment will be made on a force-account basis as provided in Section 6, contract modification, of these specifications for increased work.

MAINTENANCE OF ACCESS

Vehicular access shall be maintained at all times to all existing driveways except when construction in the immediate vicinity poses a safety risk to the public. If access is interrupted, the Contractor shall perform the work in an expeditious manner such that access can be restored as quickly as possible while maintaining a safe worksite. Pedestrian access and circulation that is fully wheelchair accessible shall be maintained by the Contractor through the project area. Contractor shall construct work to allow access.

The Contractor shall be responsible for making immediate access available to emergency vehicles at any time during work hours. The Fire Station driveway on San Pablo Avenue and access to the West County Health Center on Gateway Avenue must remain open and unobstructed at all times. The Contractor shall contact schools, fire and police stations, hospitals, or other similar facilities designated by the Engineer adjacent to the work and coordinate his operation with the facility's operations so that the Contractor's operations will have a minimized affect to the facility.

There is a school for blind people in the vicinity of the project. The Contractor shall be responsible for providing access to blind people during construction. The Contractor shall provide additional personnel to assist the blind people in crossing the streets in the construction areas, when needed.

No Parking Signs/Towing

The Contractor shall provide "No Parking" signs with day of the week written out or properly abbreviated with 3 or 4 letters; the month shall be written out or properly abbreviated with 3 or 4 letters; date or dates of restriction shall be listed completely; the beginning and ending times shall be clearly listed on the sign.

Signs shall be mounted such that the words, "No Parking" are at an elevation at least 3 feet and not more than 7 feet above the adjacent flow line. Signs may be tied with string to trees and power poles, taped to existing sign poles, or mounted to stakes or barricades as provided by the Contractor. The signs shall be placed as needed to control the parking of cars within the construction zone.

Signs shall be posted and maintained by the Contractor for a period of 72 hours prior to the restrictions becoming effective. The Contractor shall promptly reset or replace all damaged and defective signs. Upon completion of work in each area, all signs, stakes, and barricades shall be promptly and completely removed by the Contractor.

The Contractor shall be fully responsible for adequate removal of all parked cars. All vehicle removal shall be coordinated by the Contractor with the San Pablo Police Department. The Contractor shall notify the Police Traffic Sergeant upon posting of the parking restrictions. For removal of parked vehicles, the Contractor shall notify the Police traffic sergeant not less than 2 hours prior to the needed removal with the address nearest the parked vehicle, make, model, color, and license number. The City shall not be responsible for any delay or additional cost associated with the removal of parked cars which obstruct the construction operation.

If a vehicle owner successfully contests a towing citation in court, and their citation is dismissed for causes related to the Contractor's failure to perform the requirements of this section, the Contractor shall reimburse the City for the cost of any claims associated with the towing citation.

The paving shall be staged such that no traffic is allowed on the new pavement overlay for a minimum of one (1) hour after the finish roller compaction. Traffic shall be detoured through the intersections by flaggers.

The Contractor shall cooperate and allow City or utility company work crews to use the traffic control system when set up for the Contractor's work. The Contractor is not obligated to maintain the traffic control system beyond their scheduled activities.

A. Measurement. The quantity for **Traffic Control and Construction Area Signs** will be measured on a lump sum basis.

B. Payment. The contract lump sum price paid for **Traffic Control and Construction Area Signs (Bid Item #1.04)** shall include full compensation for furnishing all labor, materials, (including signs), tools, equipment and incidentals, and for doing all the work involved in placing, removing, storing, maintaining, moving to new locations, replacing and disposing of the components of the traffic control system, including supervision, as shown on the plans, as required by these Special Provisions, and as directed by the City Engineer.
Maximum compensation allowed for Traffic control on this project will be \$30,000.00.

The adjustment provisions in Standard Specifications 4-1.05, "Changes and Extra Work", shall not apply to the item of traffic control system. Any adjustment in compensation for traffic control systems due to an increase or decrease in the amount of traffic control system required by changes ordered by the City Engineer will be made on the basis of the cost of the increased or decreased traffic control necessary. Such adjustment will be made on a force-account basis as provided in Special Provisions Section 5.3.03, "Force Account", of these specifications for increased work.

Section 12 "Temporary Traffic Control", of the Standard Specifications is revised with respect to the measurement and payment of flagging costs, portable changeable message signs, flashing arrow signs, construction area signs and channelizers: these items shall be considered as included in the lump sum price for traffic control.

16.2 CIVIL

16.2.01 Demolition

PART 1 - GENERAL

1.1 SCOPE

- A. Work in this section includes removing, disposing, or incorporating the materials into the final work.

1.2 STANDARDS

- A. Unless shown or specified as otherwise, all work in this section shall conform to Section 15 "Existing Facilities" of the Caltrans Standard Specifications, except for measurement and payment requirements, and these Special Provisions.
- B. Unless shown or specified as otherwise, all work in this section shall conform to Improvement Plans for Subdivision 9331, Phase 3 and 4, by Kister, Savio & Rei, Inc., dated August 3, 2016.

1.3 SUBMITTALS

- A. Follow submittal procedure outlined in Section 4.
- B. Schedule of Building Demolition Activities: Prepare and submit, to the Owner's Representative, a schedule indicating the following:
 - 1. Detailed sequence of demolition and removal work, with starting and ending dates for each activity.
 - 2. Shut-off of utilities.
 - 3. Installation of temporary facilities to protect other facilities on the site as well as facilities on adjacent properties.
 - 4. Location of temporary protection and means of egress.
 - 5. Coordinate Owner's continuing occupancy of adjacent buildings and partial use of premises.
- C. Prior to demolition submit, to the Owner's Representative, photographs or a video tape showing existing conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by building demolition operations.
- D. Submit to the Owner's Representative a receipt showing acceptance of hazardous waste by a landfill licensed to accept hazardous waste.

- E. After demolition is complete, submit a list of items that have been removed and salvaged.

PART 2 - PRODUCTS

2.1 NOT USED

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Survey existing conditions and correlate them with requirements indicated to determine the extent of demolition required.
- B. Investigate unanticipated mechanical, electrical, or structural elements, if encountered, and measure the nature and extent of the elements and promptly submit a written report to the Owner's Representative.
- C. Inventory and record the condition of items to be removed and salvaged.

3.2 PREPARATION

- A. Remove or remediate known hazardous materials prior to demolition operations.
- B. Provide and maintain temporary shoring, bracing or structural support to preserve stability and prevent unexpected movement or collapse of the feature being demolished. Strengthen or add new supports when required during progress of demolition.

3.3 PROTECTION

- A. Protect adjacent facilities that are to remain, such as curbs, walkways, parking areas, landscaping, buildings, bioretention swales, etc.
- B. Maintain and protect existing utility services indicated to remain during demolition operations.
 - 1. Do not interrupt existing utilities serving adjacent occupied facilities unless authorized by each property owner.
 - 2. If interruption of existing utilities serving adjacent facilities is necessary, provide temporary services as is acceptable to each property owner. Provide at least 72-hours notice to the individual property owner if shutdown is required for any reason.
- C. Erect temporary protection such as walks, fences, railings, canopies, and covered passageways where required to protect workmen and the public, including but not limited to the following:
 - 1. Protect existing site improvements, appurtenances, and landscaping to remain.
 - 2. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 - 3. Provide protection to ensure safe passage of people around building demolition area and to and from occupied portions of adjacent buildings and structures.

4. Protect walls, windows, roofs, and other adjacent exterior construction that are to remain and that are exposed to building demolition operations.

3.4 DEMOLITION: GENERAL

- A. General: Demolish indicated existing features except those portions designated to remain. Use methods required to complete the Project within limitations of governing regulations and as follows:
 1. Do not use cutting torches until work area is cleared of flammable materials. Maintain portable fire-suppression devices during flame-cutting operations.
 2. Maintain adequate ventilation when using cutting torches.
- B. Engineering Surveys: Perform surveys as the Project progresses to detect hazards that may result from demolition activities.
- C. Site Access and Temporary Controls: Conduct demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from the Owner's Representative and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
 2. Use water mist and other suitable methods to limit spread of dust and dirt. Comply with governing environmental-protection regulations. Do not use water when it may damage adjacent facilities or create hazardous or objectionable conditions, such as flooding and pollution.
- D. Remove existing above and below grade improvements as indicated and as necessary to facilitate new construction.
- E. Remove slabs, paving, curbs, and gutters, as indicated. Where concrete slabs, curb, gutter and asphalt pavements are designated to be removed, remove bases and sub-base to surface of underlying, undisturbed soil.
- F. Unless the existing full-depth joints coincide with line of pavement demolition, neatly saw-cut to full depth the length of existing pavement to remain before removing existing pavement. Saw-cut faces vertically.
- G. Remove driveways, curbs, gutters and sidewalks by saw cutting to full depth. If saw cut falls within 30-inches of a construction joint, expansions joint, score mark or edge, remove material to joint, mark or edge.

3.5 MECHANICAL DEMOLITION

- A. Remove building segments intact when permitted by authorities having jurisdiction.
- B. Concrete and Masonry: Cut concrete full depth at junctures with construction indicated to remain, using power driven saw, then remove material between saw cuts.
- C. Concrete Slabs-on-Grade: Saw-cut area to be demolished at junctures with construction indicated to remain, then break up and remove.

- D. Concrete to be Recycled or Salvaged.
- E. Below-Grade Construction: Except where specified to remain, demolish and remove foundations, slabs and other below grade construction to the indicated excavation subgrade depth.
- F. Existing Utilities:
 - 1. Pipes or conduits discontinued from service that are more than 36-inches below the existing grade and are more than 5-feet outside the footprint of the new construction, may be abandoned in place. Securely close ends of abandoned piping with tight fitting plug or wall of concrete minimum 6-inches thick.
 - 2. Pipes or conduits discontinued from service that are 36-inches or less below the existing grade and within the footprint, and 5-feet beyond, the new construction, shall be removed completely, including valves, cleanouts, water meters, etc.

3.6 EXPLOSIVE DEMOLITION

- A. Explosives: Use of explosives is not permitted without written permission from the Owner, Contra Costa County, and the City of San Pablo having jurisdiction.

3.7 SITE RESTORATION

- A. No grade restoration shall occur until after contaminated soils, if any, are exported and stockpiles have been tested.

3.8 REPAIRS

- A. General: Promptly repair damage to adjacent construction caused by demolition operations.
- B. Where repairs to existing surfaces are required, patch to produce surfaces suitable for new materials.
- C. Restore exposed finishes of patched areas and extend restoration into adjoining construction in a manner that eliminates evidence of patching and refinishing.

3.9 RECYCLING DEMOLISHED MATERIALS

- A. Comply with the recycling requirements of agencies having jurisdiction.
- B. General: Separate recyclable demolished materials from other demolished materials to the maximum extent possible. Separate recyclable materials by type.
 - 1. Provide containers or other storage method approved by the Owner's Representative for controlling recyclable materials until they are removed from the Project site.
 - 2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 3. Store components off the ground and protect from the weather.
 - 4. Transport recyclable materials off of the Owner's property and legally dispose of them unless they are to be recycled within the project boundaries.

- C. Asphalt: Grind asphalt to maximum 4-inch size.

3.10 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be recycled, or otherwise indicated to remain the Owner's property, remove demolished materials from project site and legally dispose of them in an EPA-approved landfill.
2. Do not allow demolished materials to accumulate on-site.
 3. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn demolished materials.

3.11 CLEANING

- A. Clean adjacent structures and improvements of dust, and debris caused by building demolition operations. Return adjacent areas to condition existing before building demolition operations began.

PART 4 - MEASUREMENT AND PAYMENT

4.1 The quantities will be measured as follows:

- Concrete Curb, Gutter, Driveway, Walk & Ramp & Baserock Removal in unit of square feet as determined by field measure **(Bid Item #2.01)**.
- Asphalt Concrete Curb Removal in unit of linear feet as determined by field measure **(Bid Item #2.02)**.
- Asphalt Concrete Pavement only in unit of square feet as determined by field measure **(Bid Item #2.03)**.
- Asphalt Concrete Pavement & Baserock Removal in unit of square feet as determined by field measure **(Bid Item #2.04)**.
- Concrete Retaining Wall Removal in unit of linear feet as determined by field measure **(Bid Item #2.05)**.
- Street and Pedestrian Lights, all inclusive, public and private Removal in unit of each item as determined by field measure **(Bid Item #2.06)**.

16.2.02 Not Used

16.2.03 Earthwork and Grading

PART 1 - GENERAL

1.1 SCOPE

- A. Work in this section includes excavating, excavating and replacing unsuitable materials, preparing base materials, construction embankments, backfilling, importing and exporting of material, compacting and grading.

1.2 STANDARDS

- A. Unless shown or specified as otherwise, all work in this section shall conform to Section 19 "Earthwork" of the Standard Specifications, except for measurement and payment requirements, and these Special Provisions.
- B. Unless shown or specified as otherwise, all work in this section shall conform to Improvement Plans for Subdivision 9331, Phase 3 and 4, by Kister, Savio & Rei, Inc., dated August 3, 2016.
- C. Unless shown or specified as otherwise, all work in this section shall conform to Geotechnical Studies as performed by Allan Kropp and Associates, Inc. for this project.

1.3 SUBMITTALS

- A. Follow submittal procedure outlined in 16.06.
- B. Samples:
 - 1. If required by the Geotechnical Consultant, provide 40-pound samples of all imported trench bedding, backfill, and all other soil materials sealed in airtight containers, tagged with source locations and suppliers of each proposed soil material from on-site or borrow sources. Do not import materials to the Project without written approval of the Geotechnical Consultant.
 - 2. Provide materials from same source throughout work. Change of source requires approval of the Geotechnical Consultant and the Owner's representative's.
- C. Material Test Reports: Provide, from a qualified testing agency, the following test results showing compliance with the project requirements:
 - 1. Classification according to ASTM D 2487 of each onsite or borrow soil material proposed for fill and backfill.
 - 2. Laboratory compaction curve in conformance with ASTM D 1557 for each onsite or borrow soil material proposed for fill and backfill.
- D. Product Data:
 - 1. Grading and quality characteristics showing compliance with requirements for the Work.
 - 2. Certify that material meets requirements of the Project.
- E. Material Test Reports: Provide, from a qualified testing agency, the following test results showing compliance with the project requirements:
 - 1. Classification according to ASTM D 2487 of each imported trench bedding and backfill material.
 - 2. Laboratory compaction curve in conformance with ASTM D 1557 for each imported trench bedding and backfill material

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from on-site excavations.

- B. Obtain approval of on-site soil materials and borrow materials to be used for structural fill or structural backfill from the Geotechnical Consultant.
- C. On-Site Structural Fill and Structural Backfill: Soil or soil-rock mixture from on-site excavations, free of deleterious substances. On-site structural fill and backfill shall not contain rocks or rock fragments over 6 inches in greatest dimension and moisture content above optimum as recommended in table 4 of the soils report.
- D. Imported Structural Fill and Structural Backfill: Conform to the requirements of on-site structural fill. Material shall have an expansion index of 50 or less.

2.2 SOIL STERILANT

- A. Commercial chemical for weed control, registered by EPA. Provide granular, liquid or wet-able powder form.

2.3 PIPE BEDDING AND INITIAL BACKFILL

- A. ASTM D 2321, Class IA, IB or II.
- B. Permeable Material: Conform to Section 68-2.02F of Caltrans Standard Specifications, Class 1, Type A or Class 2.
- C. Class 2 Aggregate Base: Conform to Section 26 of Caltrans Standard Specifications, ¾-inch maximum.
- D. Sand: Conform to Section 19-3.02 of Caltrans Standard Specifications.

2.4 WARNING TAPE

- A. See Section 10.1.06.

2.5 SUBSEQUENT BACKFILL

- A. Conform to on-site or imported structural backfill in Section 2-2.1C, Earthwork and Grading.

2.6 CONCRETE STRUCTURE BEDDING AND BACKFILL

- A. Precast Structures: Same materials to the same heights as specified for pipe bedding and backfill, or other material approved by the Geotechnical Consultant.
- B. Poured-in-Place Structures:
 - 1. Bedding: Bedding shall meet the approval of the Geotechnical Consultant. In general, bedding is not required, pour bases against undisturbed native earth in cut areas and against engineered fill compacted to 90% relative compaction.
 - 2. Side Backfill: On-site or imported structural fill meeting the requirements given in Section 2-2.1C.

2.7 FILTER FABRIC

- A. Filter Fabric:

1. Filter Fabric: Section 88-1.03 of Caltrans Standard Specifications.

2.8 CONTROLLED LOW STRENGTH MATERIAL (CLSM):

- A. Conform to Caltrans Standard Specifications 19-3.02F and 19-3.03I.

2.9 LEAN CONCRETE:

- A. Conform to Caltrans Standard Specifications 19-3.02H.

2.10 LIME STABILIZED SOIL (QUICKLIME):

- A. Conform to Caltrans Standard Specifications 24-2.02B.

PART 3 - EXECUTION

3.1 GENERAL

- A. Conform to Section 19, Earthwork, Caltrans Standard Specifications as modified by the Contract Documents.
- B. Placement and compaction of material by flooding, ponding, or jetting will not be permitted.
- C. The use of explosives will not be permitted.

3.2 CONTROL OF WATER AND DEWATERING

- A. Be solely responsible for dewatering trenches and excavations and subsequent control of ground and surface water. Provide and maintain such pumps or other equipment as may be necessary to control ground water and seepage to the satisfaction of the Geotechnical Consultant and the Owner's Representative until backfilling is completed.
- B. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding the site and surrounding area. Provide dewatering equipment necessary to drain and keep excavations and site free from water.
- C. Dewater during backfilling operation so that groundwater is maintained a least one foot below level of compaction effort.
- D. Obtain the Geotechnical Consultant's approval for proposed control of water and dewatering methods.
- E. Protect subgrades from softening, undermining, washout and damage by rain or water accumulation.
- F. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations.
- G. Maintain dewatering system in place until dewatering is no longer required.
- H. Disposal of groundwater shall be performed in conformance with the Regional Water Quality Control Board regulations.

3.3 WET WEATHER CONDITIONS

- A. Do not prepare subgrade, place or compact soil materials if subgrade or materials are above optimum moisture content.
- B. If the Geotechnical Consultant allows work to continue during wet weather conditions, conform to supplemental recommendations provided by the Geotechnical Consultant.

3.4 BRACING AND SHORING

- A. Conform to California and Federal OSHA requirements.
- B. Place and maintain such bracing and shoring as may be required to support the sides of the excavations for the proper protection of workmen; to facilitate the work; to prevent damage to the facility being constructed; and to prevent damage to adjacent structures or facilities. Remove all bracing and shoring upon completion of the work.
- C. Be solely responsible for all bracing and shoring and, if requested by the Owner's Representative, submit details and calculations to the Owner's Representative. The Owner's Representative may forward the submittal to the Geotechnical Consultant, the Consulting Engineer and/or the California Division of Industrial Safety for their review. The Contractor's submittal shall include the basic design, assumed soils conditions and estimation of forces to be resisted, together with plans and specifications of the materials and methods to be used, and shall be prepared by a civil engineer or structural engineer registered in California. No excavations related to the proposed facility shall precede a response to the submittal by the Owner's Representative.

3.5 EXCAVATION

- A. Excavate earth and rock to lines and grades shown on drawings and to the neat dimensions indicated on the Plans, required herein or as required to satisfactorily compact backfill.
- B. Remove and dispose of large rocks, pieces of concrete and other obstructions encountered during excavation.
- C. Where forming is required, excavate only as much material as necessary to permit placing and removing forms.
- D. Provide supports, shoring and sheet piles required to support the sides of excavations or for protection of adjacent existing improvements.

3.6 REMOVAL OF EXISTING FILLS AND UNSUITABLE MATERIAL

- A. Over-excavate areas of existing fills and other unsuitable material encountered during mass grading as directed by the Geotechnical Consultant.
- B. Compensation for increased removal widths and depths that are not required by the Geotechnical Consultant will not be considered, except when such increase is necessary for protection of life and property as determined by and approved by the Owner.
- C. The Geotechnical Consultant will provide written approval for each excavation prior to placement of fill. Allow adequate time after excavation and before filling for the

Geotechnical Consultant's review and written approval and, if necessary, time for the Owner's Representative to conduct as built survey prior to placing fill. Basis for calculating the quantity of material excavated or placed may be the difference between the grading shown on the Plan and an as built survey of the grading.

3.7 GRADING

- A. Uniformly grade the Project to the elevations shown on plans
- B. Finish ditches, gutters and swales to the sections, lines and grades indicated and to permit proper surface drainage.
- C. Round tops and bottoms of slopes as indicated or to blend with existing contours.

3.8 SUBGRADE PREPARATION

- A. Install underground utilities and service connections prior to final preparation of subgrade and placement of base materials for final surface facilities. Extend services so that final surface facilities are not disturbed when service connections are made.
- B. Prepare subgrades under the structural section of paved areas, curbs, gutters, walks, structures, other surface facilities and areas to receive structural fill.
- C. Prepare subgrades for the structural section of paved areas, curbs and gutters by plowing or scarifying surface at least 6 inches below final subgrade elevations and 5-feet beyond edge of pavement unless specified otherwise by the Geotechnical Consultant. Uniformly moisture condition to obtain optimum moisture contents. Break clods and condition surface by harrowing or dry rolling. Remove boulders, hard ribs and solid rock. Prepare earth uniform for full depth and width of subgrade.
- D. Protect utilities from damage during compaction of subgrades and until placement of final pavements or other surface facilities.
- E. Obtain the Geotechnical Consultant's approval of subgrades prior to placing pavement structural section.

3.9 PLACEMENT OF STRUCTURAL FILL

- A. Obtain the Geotechnical Consultant's approval of surface to receive structural fill prior to placement of structural fill material.
- B. Place structural fill on prepared subgrade.
- C. Spread structural fill material in uniform lifts not more than 8-inches in un-compacted thickness and compact.
- D. Place structural fill material to suitable elevations above grade to provide for anticipated settlement and shrinkage.
- E. Overbuild fill slopes, as required by the Geotechnical Consultant, to obtain required compaction. Remove excess material to lines and grades indicated.

- F. Do not drop fill on structures. Do not backfill around, against or upon concrete or masonry structures until structure has attained sufficient strength to withstand loads imposed and the horizontal structural system had been installed.

3.10 LOT FINISH GRADING

- A. Blade finish lots to lines and grades indicated.

3.11 COMPACTION AND TESTING

- A. Do not compact by ponding, flooding or jetting.
- B. Compact soils at optimum water content. Aerate material if it is too wet. Add water to material if it is too dry. Thoroughly mix lifts before compaction to ensure uniform moisture distribution.
- C. Perform compaction using rollers, pneumatic or vibratory compactors or other equipment and mechanical methods approved by the Geotechnical Consultant.

3.12 SOIL STERILIZATION

- A. Apply soil sterilant to areas indicated, such as beneath asphalt concrete pavement, brick pavement, concrete pavement and at grade concrete slabs, including sidewalks, curbs and gutters. Also where indicated apply soil sterilant below expansion and control joints and at areas where pipes, ducts or other features penetrate slabs.
- B. Apply soil sterilant uniformly and at the rates recommended by the manufacturer.
- C. Apply soil sterilant to prepared subgrade, or after installation of aggregate base as recommended by the manufacturer.

3.13 DISPOSAL

- A. Lawfully dispose of all unsuitable and excess or surplus material off-site at no cost to the Owner.

3.14 TRENCHING AND EXCAVATION

- A. Existing PCC or AC Areas: Cut PCC or AC to full depth at a minimum distance of 12-inches beyond the edge of the trench.
- B. Excavate by hand or machine. For gravity systems begin excavation at the outlet end and proceed upstream. Excavate sides of the trench parallel and equal distant from the centerline of the pipe. Hand trim excavation. Remove loose matter.
- C. Excavation Depth for Bedding: Minimum of 4-inches below bottom of pipe or as otherwise allowed or required by the Geotechnical Consultant, except that bedding is not required for nominal pipe diameters of 2-inches or less.
- D. Excavation Width at Springline of Pipe:
 - 1. Up to a nominal pipe diameter of 24-inches: Minimum of twice the outside pipe diameter, or as otherwise allowed or required by the Geotechnical Consultant.

2. Nominal pipe diameter of 30-inches through 36-inches: Minimum of the outside pipe diameter plus 2-feet, or as otherwise allowed or required by the Geotechnical Consultant.
 3. Nominal pipe diameter of 42-inches through 60-inches: Minimum of the outside pipe diameter plus 3-feet, or as otherwise allowed or required by the Geotechnical Consultant.
- E. Over-Excavations: Backfill trenches that have been excavated below bedding design subgrade, with approved bedding material.
 - F. Comply with the Owner's Representative's limitations on the amount of trench that is opened or partially opened at any one time. Do not leave trenches open overnight without the approval of the Owner's Representative.
 - G. Where forming is required, excavate only as much material as necessary to permit placing and removal of forms.
 - H. Bottoms of trenches will be subject to testing by Geotechnical Consultant. Correct deficiencies as directed by the Geotechnical Consultant.
 - I. Grade bottom of trench to provide uniform thickness of bedding material and to provide uniform bearing and support for pipe along entire length. Remove stones to avoid point bearing.

3.15 PIPE BEDDING

- A. Obtain approval of bedding material from the Geotechnical Consultant.
- B. Accurately shape bedding material to the line and grade called for on the Plans. Carefully place and compact bedding material to the elevation of the bottom of the pipe in layers not exceeding 8-inches in loose thickness. Compact bedding material at optimum water content to 90% relative compaction unless specified otherwise on the Plans or by the Geotechnical Consultant. Compact by pneumatic tampers or other mechanical means approved by the Geotechnical Consultant. Jetting or ponding of bedding material will not be permitted.
- C. Upon completion of bedding operations, and prior to the installation of pipe, notify the Geotechnical Consultant, who will inspect the bedding layer. Do not commence pipe laying until the Geotechnical Consultant has approved the bedding.

3.16 BACKFILLING

- A. Obtain approval of backfill material from Geotechnical Consultant.
- B. Bring initial backfill up simultaneously on both sides of the pipe, so as to prevent any displacement of the pipe from its true alignment. Carefully place and compact initial backfill material to an elevation of 12-inches above the top of the pipe in layers not exceeding 8-inches in loose thickness. Compact initial backfill material at optimum water content to 90% relative compaction unless specified otherwise on the Plans or by the Geotechnical Consultant. Compact by pneumatic tampers or other mechanical means approved by the Geotechnical Consultant. Jetting or ponding of initial backfill material will not be permitted.

- C. Bring subsequent backfill to subgrade or finish grade as indicated. Carefully place and compact subsequent backfill material to the proper elevation in layers not exceeding 8-inches in loose thickness. Compact subsequent backfill material at optimum water content to 90% relative compaction, except that the upper 36-inches in areas subject to vehicular traffic shall be compacted to at least 95% relative compaction, unless specified otherwise on the Plans or by the Geotechnical Consultant. Compact by pneumatic tampers or other mechanical means approved by the Geotechnical Consultant. Jetting or ponding of subsequent backfill material will not be permitted..
- D. Do not use compaction equipment or methods that produce horizontal or vertical earth pressures which may cause excessive pipe displacement or damage the pipe.
- E. Utility backfill shall be inspected and tested by the Geotechnical Consultant during placement. Cooperate with the Geotechnical Consultant and provide working space for such tests in operations. Backfill not compacted in accordance with these specifications shall be re-compacted or removed as necessary and replaced to meet the specified requirements, to the satisfaction of the Geotechnical Consultant and the Owner's Representative prior to proceeding with the Project.

3.17 CLEANUP

- A. Upon completion of utility earthwork all lines, manholes catch basins, inlets, water meter boxes and other structures shall be thoroughly cleaned of dirt, rubbish, debris and obstructions of any kind to the satisfaction of the Owner's Representative.

Erosion Control:

PART 1 - GENERAL

1.1 SCOPE

- A. Work in this section includes the preventing, controlling, and abating water pollution in streams, waterways, and other bodies of water.

1.2 STANDARDS

- A. Unless shown or specified as otherwise, all work in this section shall conform to Section 21 "Erosion Control" of the Caltrans Standard Specifications, except for measurement and payment requirements, and these Special Provisions.
- B. Unless shown or specified as otherwise, all work in this section shall conform to project drawings by Stormwater Specialists and Improvement Plans for Subdivision 9331, Phase 3 and 4, by Kister, Savio & Rei, Inc., dated August 3, 2016.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Hydroseed
 - 1. Seed: fresh, clean, new crop seed of varieties indicated. Seed shall be mixed by dealer. Furnish dealer's guaranteed statement of composition, mixture, and percentage of purity and germination of each seed type.

Seed Mix Type	Seed
Rate	
Bromus carinatus (Native California Brome)	9.6
lbs./Acre	
Hordeum californicum 'Prostrate' (California Barley)	9.6
lbs./Acre	
Festuca rubra (Red Fescue)	7.2
lbs./Acre	
Leymus triticoides (Rio Creeping Wild Rye)	6.0
lbs./Acre	
Deschampsia caespitosa 'Holciformis' (Coastal Hairgrass)	4.2
lbs./Acre	
Achillea millifolium (White Yarrow)	1.2
lbs./Acre	
Eschscholzia californica (California Poppy)	1.2
lbs./Acre	
Artemisia douglasiana (Mugwort)	.12
lbs./Acre	
2. Slurry Mix Components Per Acre:	
39.12 Pounds Seed Mix	
1,000 Pounds Biosol 7-2-3 Slow Release Organic Fertilizer	
2,000 Pounds Conwed Wood Fiber Mulch	
200 Pounds Per Acre Organic Tackifier	

PART 3 - EXECUTION

- 3.1 The Contractor will submit the SWPPP to the RWQCB and update the SMARTS system in coordination with the City.

PART 4 - MEASUREMENT AND PAYMENT

- 4.1 The quantities will be measured as follows:
- Finish Grading in Public Right of Way in unit of square footage (**Bid Item #3.01**).
 - Grading for Roadway Excavation in unit of cubic yards by field measure (**Bid Item #3.02**).
 - Import Select Fill Material as defined by Soils Report 2388-4 in unit of cubic yards by field measure (**Bid Item #3.03**)
 - Unsuitable Materials as defined by Soils Report 2388-4 in unit of cubic yard and will be a revocable item if not needed (**Bid Item #3.04**). The contract unit price paid for items listed above shall include full compensation for furnishing all labor, materials, tools, equipment, incidentals, and for doing all work involved including excavation, subgrade preparation, compaction, and excess material disposal as specified in the State Standard Specifications, these specifications, and as directed by the Engineer and no additional compensation will be made therefore.
- item #3.04 is revocable if not used, therefore, no adjustment in the contract unit prices for Unsuitable Material shall be made for increases or decreases of more than 25 percent of the quantities, and the provisions of Section 5-1.05 of the Special Provisions of these Specifications shall not apply.
- Erosion Control in unit of lump sum (**Bid Item #3.05**), and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals,

and for doing all the work involved in installation of erosion control measures per the approved SWPPP, preventing polluted runoff and related incidental work.

16.2.04 Class 2 Aggregate Base

A. Description. Aggregate base shall be Class 2 and shall conform to the provisions in Section 26, "Aggregate Bases," and compaction shall conform to Section 26-1.03D of the State Standard Specifications and these Special Provisions.

Aggregate base exceeding a workable moisture content will be rejected by the Engineer and shall be immediately removed from the project site by the Contractor. Aggregate base shall be placed under concrete curbs, gutters, sidewalks, driveways and pavement unless shown otherwise on the plans.

The grading of the material shall conform to the ¾ inch, maximum, specified in Section 26-1.02B, "Class 2 Aggregate Base," of the State Standard Specifications.

Aggregate base shall be spread in accordance with the provisions of Section 26-1.03C, "Spreading" and Section 26-1.03D, "Compacting," of the State Standard Specifications. Spreading and compacting shall be performed by methods that will produce a uniform base, firmly compacted and free from pockets of coarse or fine material. No spreading operation shall begin until the physical characteristics of aggregate base have been approved by the Engineer.

B. Measurement. None.

C. Payment. Compensation for providing and placing **Class 2 Aggregate Base** for installation of various concrete items shall be considered as included in the contract prices paid for those items and no additional payment will be made.

Compensation for providing and placing **Class 2 Aggregate Base (Bid Item #6.09)** beneath asphalt pavements shall be at the contract price per ton and shall be considered full compensation for all labor, materials, tools, equipment, and incidentals to do all the work involved. The contractor shall supply weight tags to the Engineer on a daily basis. Quantities of Class 2 Aggregate Base will be determined and approved by the Engineer by using the tags. Class 2 Aggregate Base weight tags shall contain the project name and indicate tonnage used.

16.2.05 Class 2 Permeable Aggregate Material

A. Description. Permeable Aggregate Material shall be Class 2 and shall conform to the provisions in Section 68, "Subsurface Drains," and compaction shall conform to Section 68-2.02F(3) of the State Standard Specifications and these Special Provisions.

Class 2 Permeable Aggregate Material shall be placed at the base of all bioretention swales unless shown otherwise on the plans.

Aggregate base shall be spread in accordance with the provisions of Section 26-1.03C, "Spreading" of the State Standard Specifications. Spreading shall be performed by methods that will produce a uniform base, and free from pockets of coarse or fine material. No spreading operation shall begin until the physical characteristics of aggregate base have been approved by the Engineer.

B. Measurement. None.

C. Payment. Compensation for providing and placing **Class 2 Permeable Aggregate Material (Bid Item #6.14)** at the base of all bioretention swales shall be at the contract price per ton and shall be considered full compensation for all labor, materials, tools, equipment, and incidentals to do all the work involved. The contractor shall supply weight tags to the Engineer on a daily basis. Quantities of Class 2 Permeable Aggregate Material will be determined and approved by the Engineer by using the tags. Class 2 Permeable Aggregate Material weight tags shall contain the project name and indicate tonnage used.

16.2.06 Not Used

16.2.07 Drainage

PART 1 - GENERAL

1.1 SCOPE

- A. Work in this section includes specifications for the materials used in providing wet utilities for the site.

1.2 STANDARDS

- A. Unless shown or specified as otherwise, all work in this section shall conform to the following sections of the Caltrans Standard Specifications, except for measurement and payment requirements, and these Special Provisions.
 - 1. Section 64 - Plastic Pipe.
 - 2. Section 68 - Subsurface Drains.
 - 3. Section 70 - Miscellaneous Drainage Facilities.
- B. Unless shown or specified as otherwise, all work in this section shall conform to the City of San Pablo Standard Details (most current).
- C. Unless shown or specified as otherwise, all work in this section shall conform to the Contra Costa County Public Works Department Standard Plans, dated March, 2014.
- D. Unless shown or specified as otherwise, all work in this section shall conform to Improvement Plans for Subdivision 9331, Phase 3 and 4, by Kister, Savio & Rei, Inc., dated August 3, 2016.

1.3 SUBMITTALS

- A. Follow submittal procedure outlined in Section 16.06.
- B. Product Data Shop Drawings, Etc.: For the following:
 - 1. Piping materials and fittings.
 - 2. Special pipe couplings.
 - 3. Joint sealants.
 - 4. Plastic area drains.
 - 5. Cleanout plugs or caps.
 - 6. Precast concrete drain inlets, curb inlets, junction structures and area drains, including frames and grates.
 - 7. Perforated pipe and fittings.
 - 8. Solid pipe and fittings.
 - 9. Geotextile fabrics.

- 10. Manholes.
- C. Drainage Fill
- D. Design Mix Reports and Calculations: For each class of cast in place concrete.
- E. Field Test Reports: Indicate and interpret test results for compliance with performance.

PART 2 - PRODUCTS

2.1 PIPING MATERIALS

- A. Reinforce Concrete Pipe, 12" and larger, with tongue and groove mortar joints, ASTM C76, Class III.
- B. PVC Pipe and Fittings, 4-Inch and Larger
 - 1. Pipe:
 - a. 4-inch through 10-inch: ASTM D 3034, SDR 35. Bell and spigot joints.
 - 2. Fittings:
 - a. 4-inch through 10-inch: ASTM F 1336.
 - 3. Joint Gasket: Elastomeric seal, ASTM F 477.
 - 4. Perforation Size, Location, and Spacing: ASTM D 2729.

2.2 SUBDRAINS

- A. Perforated subdrain pipe of the required diameter shall be installed as shown on the drawings. The pipe(s) shall also conform to these specifications unless otherwise specified.
 - 1. Perforated PVC, SDR 35 (ASTM D-3034)
 - 2. Perforated PVC A-2000 (ASTM F949)
 - 3. Perforated corrugated HDPE double-wall (AASHTO M-252 or M-294, Caltrans Type S , 50 psi minimum stiffness)

2.3 CLEANOUTS

- A. Piping: Same as storm drain line, or subdrain pipe without perforations.
- B. Top Plug or Cap: Same material as piping if possible. Plug or cap to be secure but removable, threaded or non-threaded.
- C. Box Size: As required to provide access and allow easy removal and reinstallation of plug or cap.

2.4 CURB INLETS, CATCH BASINS, DROP INLETS, JUNCTIONS STRUCTURES, AREA DRAINS, TRENCH DRAINS, ETC.

- A. General: Size, shape, configuration, depth, etc. of structure and frame, grate, or cover shall be as indicated.
- B. Portland Cement Concrete and Reinforcing: Section 03301.
- C. Precast Structure:

1. Rate for AASHTO H20 loading in traffic areas.
 2. Type "C" inlet refers to US Concrete Precast Group type CB2436 (24" x 36"), with standard, non-traffic frame and grate, or equivalent.
- D. Steps: ASTM C 478 or AASHTO M 199. Manufacture from deformed, ½-inch steel reinforcement rod complying with ASTM A 615 and encased in polypropylene complying with ASTM D4101. Include pattern designed to prevent lateral slippage off step. Acceptable manufacturer is Heidelberg Cement Group.
- E. Trench Drain to be 6" wide minimum, Polycast, 600 Series, or equal; with ADA compliant Ductile Iron Locking Grate. See plans for Grate type. Install per Caltrans Standard Detail, D98C.
- F. Frames, Grates and Covers: Caltrans Standard Specification Section 75-1.02, 75-1.03 and 75-1.05, or per City of San Pablo Standard Details or Contra Costa County Standard Plans.
1. Galvanize steel frames, grates and covers.
 2. Grates and covers shall be non-rocking.
 3. Rate for AASHTO H20 loading in traffic areas.

2.5 MANHOLES

- A. General: Size, shape, configuration, depth, etc. of manhole and frame and cover shall be as indicated. Refer to Standard Plans for either Contra Costa County or Caltrans.
- B. Portland Cement Concrete and Reinforcing:
1. Poured-in-Place Portion: Section 03301.
 2. Precast Portion: ASTM C 478 or AASHTO M199. Rate for AASHTO H20 loading in traffic areas.
- C. Frames and Covers: As indicated and in accordance with Caltrans Standard Specification Section 75-1.02 or Contra Costa County Standards.
- D. Steps: Manufacture from deformed, ½-inch steel reinforcement rod complying with A 615/A 615M and encased in polypropylene complying with ASTM D 4101. Include pattern designed to prevent lateral slippage off step. Acceptable manufacturer is Hanson Concrete Products, (Milpitas, CA) (Tel 408-262-1091) or equal.

2.6 JOINT SEALANT FOR PRECAST STRUCTURES AND MANHOLES

- A. Mortar: Caltrans Standard Specification Section 51-1.135.
1. Use to seal around pipes at connections to structures and manholes. Also use to seal joints between precast sections of structures and manholes.
- B. Gaskets: Preformed flexible rubber or plastic gasket.
1. Rubber Gaskets: ASTM C 443.
 2. Plastic Gaskets: Federal Specification SS-S-00210 (GSA-FSS), Type I, Rope Form; or alternate standard which may exist. Acceptable material is "Ram-Nek" as manufactured by the K. T. Snyder Company (Houston TX) or equal.

2.7 DRAINAGE FILL MATERIAL

- A. Caltrans Permeable Material: Conform to Section 68-1.025 of Caltrans Standard Specifications.
 - 1. Class 1, Type A or B: Material must be encased in filter fabric.
 - 2. Class 2: Material is not required to be encased in filter fabric.

2.8 FILTER FABRIC

- A. When required, use filter fabric for encasing permeable material around subdrains.
 - 1. Caltrans Filter Fabric: Section 88-1.03 of Caltrans Standard Specifications.

PART 3 - EXECUTION

3.1 PIPE INSTALLATION

- A. General: Install pipe, fittings, and appurtenances utilizing best practices, manufacturer's instructions, and in accordance with Section 6 and 7 of ASTM D 2321 for plastic pipe, Caltrans Standard Specification Section 65-1.07 for reinforced concrete pipe, Caltrans Standard Specification Sections 66-1.045 and 66-1.05 for corrugated metal pipe and chapter 11.3.3 of AWWA M41 for cast iron and ductile iron pipe.
- B. Pipe Depth and Trench Configuration: Conform to typical trench section(s) indicated.
- C. Excavation, Bedding, Backfill, and Compaction: Section 16.2.03.
- D. Handling: Carefully handle during loading, hauling, unloading and placing operations to avoid breakage or damage. Use strap type slings for lifting and placing; no chains or hooks will be permitted. Comply with manufacturer's recommendations.
- E. Laying: Before lowering pipe into the trench, remove all stakes, debris, loose rock and other hard materials from the bottom of the trench. Lay accurately in conformance with lines and grades indicated. Start laying the pipeline at the low end and proceed upstream. Lay bell and spigot pipe with the bell end facing upstream. Lay pipe on a bed prepared by handwork, dug true to grade. Furnish firm bearing for pipe throughout its entire length with bell holes provided at the ends of each pipe length of sufficient size to permit making up the particular type of joint being used. Adjust pipe to line and grade by scraping away or filling and tamping material under the body of the pipe for the entire pipe length and not by blocking or wedging. After final positioning, hold pipe in place in trench with backfill material placed equally on both sides of the pipe at as many locations as required to hold the pipe section in place.
- F. Install piping beginning at low point of system, true to grades and alignment indicated on plans with broken continuity of inverts.
- G. Curved Alignment: When necessary to conform to the alignment specifically indicated, lay pipe on a curved alignment by means of asymmetrical closure of joints or bending of the pipe barrel. Use shorter lengths of pipe than the standard length if necessary to achieve curvature specified. Do not exceed the recommendations of the pipe manufacture for deflections at the joints or pipe bending.

- H. Closure: Close open ends of pipes and appurtenance openings at the end of each day's work or when work is not in progress.
- 3.2 INSTALLATION OF PIPE ANCHORS
- A. Install at location, configuration and details shown on the Plans.
- 3.3 EXAMINATION
- A. Examine surfaces and areas for suitable conditions where subdrainage systems are to be installed.
 - B. Install only after unsatisfactory conditions have been corrected.
- 3.4 PIPING APPLICATIONS
- A. Refer to Plans for location, size, and material designation for individual subdrains.
- 3.5 SPECIAL PIPE COUPLINGS
- A. General: Use where required to join piping and no other appropriate method is specified. Do not use instead of specified joining methods.
 - B. Installation: Manufacturer's instructions.
- 3.6 CLEANOUT INSTALLATION
- A. General: Install as indicated.
 - B. Cleanout piping to be the same size as the subdrain piping to which it is attached.
 - C. Install cleanouts from subdrainage piping to grade. Locate cleanouts at beginning of piping run, at changes in direction, and other locations indicated.
 - D. Do not allow cleanout box to bear on cleanout riser.
- 3.7 INSTALLATION OF CURB INLETS, CATCH BASINS, DROP INLETS, JUNCTION STRUCTURES, AREA DRAINS, ETC. AND MANHOLES
- A. Excavation, Bedding, Backfill, and Compaction: Section 10.2.03.
 - B. Poured in Place Structures: Install as indicated and Caltrans Standard Specification Section 51.
 - 1. Shape bottoms to convey flows as indicated.
 - C. Precast Structures: Install as indicated.
 - 1. Seal all joints and pipe entrances and exits.
 - 2. Place concrete in bottom and shape to convey flows as indicated.
- 3.8 INSTALLATION OF NON-PERFORATED PORTIONS OF SUBDRAINS
- A. Conform to Sections 10.2.03.

3.9 JOINING PIPE

- A. Join ABS and PVC pipe and fittings with elastomeric seals according to ASTM D 2321 or solvent cement.
- B. Special pipe couplings: Join piping made of different materials and dimensions with special couplings made for this application. Use couplings that are compatible with and that fit both pipe materials and dimensions.

3.10 CLEANING

- A. Clear interior of installed piping and structures of dirt and other superfluous material as work progresses. Maintain swab or drag in piping and pull past each joint as it is completed. Place plugs in ends of uncompleted pipe at end of each day or when work stops.

3.11 TESTING

- A. General: Test new piping systems, and parts of existing systems that have been altered, extended, or repaired, for leaks and defects.
 - 1. Do not enclose, cover, or put into service before inspection and approval.
 - 2. Test completed piping systems according to authorities having jurisdiction.
 - 3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours advance notice.
 - 4. Submit separate reports for each test.
 - 5. Where authorities having jurisdiction do not have published procedures, perform tests in accordance with latest edition of the Uniform Plumbing Code (UPC) Section 1109.0, Testing.
 - 6. Leaks and loss in test pressure constitute defects that must be repaired.
 - 7. Replace leaking piping using new materials, and repeat testing until leakage is within allowances specified.

PART 4 - MEASUREMENT AND PAYMENT

- 4.1 The quantities will be measured as follows:

- A. Storm Drain Cleanout (bioretention areas) in unit of each item **(Bid Item #4.01)**.
- B. Storm Drain Cleanout in unit of each item **(Bid Item #4.01)**.
- C. 6" PVC SDR 35 Solid Pipe in unit of linear feet **(Bid Item #4.02)**.
- D. 6" PVC SDR 35 Perforated Pipe (bioretention areas) in unit of linear feet **(Bid Item #4.03)**.
- E. Roof Drain Repair & Connection to new 6" PVC Storm Drain in unit of each item **(Bid Item #4.04)**.

16.2.08 Sanitary Sewer

PART 1 - GENERAL

1.1. SCOPE

- A. Provide sewer pipelines and structures where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

- B. Description: The work includes, connections to existing work, required piping and fittings, related earthwork, underground structures, concrete work and testing necessary to provide a complete, functioning system.

1. Sanitary Side Sewer: Minimum 4-inch in diameter

- a. C900 DR-14, PVC, Bell and Spigot.

1.2. SUBMITTALS

A. Shop Drawings and Product Data:

1. Submittals shall include the following items according to the General Conditions:

- a. Pipe and fittings.
- b. Manholes and frames and covers.
- c. Couplings and adapters.
- d. Bonding compounds.

2. Submit shop drawings to show compliance with Contract Documents and include:

- a. Materials classification and identification.
- b. Required supports, anchorage and restraints.
- c. Special installation requirements.
- d. Deviations.

- B. Test Reports: Submit copies of reports of structural integrity and performance test data in the number and as required by the General Conditions of this Section.

- C. Certificates: Submit affidavits for all other materials not included in the above list certifying that materials furnished conform with the requirements of this Section, unless otherwise directed by the Engineer.

- D. Manufacturer's Instructions: Submit Epoxy Bonding Compound manufacturer's detailed product application instructions in advance of the Work.

1.3. TRANSPORTATION AND HANDLING

- A. Arrange deliveries of products in accord with construction schedules, coordinate to avoid conflict with work and conditions at the site.

- 1. Deliver products in undamaged condition, with identifying labels intact and legible.
- 2. Immediately on delivery, inspect shipment to assure compliance with requirements of Contract Documents and approved submittals, and that products are properly protected and undamaged.

- B. Provide equipment and personnel to handle products by methods to prevent damage to products.

1.4. STORAGE AND PROTECTION

- A. Store products in accordance with manufacturer's instructions.

- 1. Store products subject to damage by the elements in weather tight enclosures.

2. Maintain temperature and humidity within the ranges required by manufacturer's instructions.
- B. Exterior Storage:
1. Store fabricated products above the ground, on blocking skids, to prevent soiling or staining.
 2. Store loose granular materials in a well-drained area on solid surfaces to prevent mixing with foreign matter.
- C. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored products to assure that products are maintained under specified conditions, and free from damage.
- D. Protection after Installation:
1. Provide substantial coverings as necessary to protect installed products from damage by traffic and subsequent construction operations. Remove when no longer needed.

PART 2 - PRODUCTS

2.1 PIPING MATERIALS – MAIN SEWER

- A. Ells, tees, reducing tees, wyes, couplings, increasers, crosses, transitions and end caps shall be of the same Type and Class of materials as the pipe, or of material having equal physical and chemical properties.

2.2 PIPING MATERIALS – SIDE SEWER

- A. Ells, tees, reducing tees, wyes, couplings, increasers, crosses, transitions and end caps shall be of the same Type and Class of materials as the pipe, or of material having equal physical and chemical properties.
- B. C900 DR-14, Polyvinyl Chloride (PVC) ANSI/AWWA C900: C900 PVC pipe to be any color except BLUE color.

2.3 UNDERGROUND CONVEYANCE STRUCTURES

- A. Shop coat ferrous metal surfaces with "BITUMINOUS COATING", except where other equivalent types of protective coatings are manufacturer's standard. All covers shall have "WCWD" or "Sanitary Sewer" marked on them.
- B. Manhole Frame and Cover shall be cast iron conforming to ASTM A48, Class 30 and District Standard Detail Number A-7.

Manufacturer:

- a. American Dutch Foundry A-208.
 - b. Phoenix Iron Works equivalent.
 - c. Or equal.
- C. Underground Structure Components (Manholes)

1. Precast concrete sections shall be inspected when delivered to the job site. Cracked or defective sections shall be rejected and removed from the job-site.
2. Precast Materials:
 - a. Eccentric Cone, Precast Bottom and Riser Sections: ASTM C478.
 - b. Compression Elastomer Joints: ASTM C443 or Mastic Joints with Ram Nek, Kent Seal or equal.
 - c. Grade rings shall conform to District Standard Detail Number M-5.
3. Nonshrinking Mortar:
 - a. One part portland cement, one part sand and one part shrinkage-correcting aggregate.

Manufacturer:

- (1) Master Builders "Embeco".
- (2) Sika "Kemox".
- (3) Sonneborn "Ferrolith G-DS".
- (4) Or equal.

4. Manhole Waterstops
 - a. Manhole waterstops shall be manufactured of elastomeric plastic. The waterstops shall be corrosion, acid and alkali resistant and suitable for use in wastewater. The waterstop shall be used when grouting sewer line penetrations of existing manholes or installation in new manholes as shown on the Drawings.

Manufacturer:

- (1) Fenco, Concrete Manhole Adapters.
- (2) Or equal.

2.4 MISCELLANEOUS MATERIALS

A. Banded Rubber Coupling

1. Banded rubber coupling used to connect new pipe to existing pipe shall be completed by a flexible coupling consisting of a neoprene gasket and stainless steel shear ring.

Manufacturer:

- a. Fernco Pipe Connectors, Coupling Series 1055 with Sear Ring SR-18.
- b. Mission Clay Products Corp., Band Seal.
- c. Joints, Inc. "Ceramicweld" couplings.
- d. Or equal.

B. Bituminous Coating

Manufacturer:

- a. Koppers "Bitumastic 50".
- b. Tnemec "450 Heavy Tnemecol".
- c. Porter Coatings Div. of Porter Paint Co. "Tarmastic 101".
- d. Or equal.

C. Gasket Joint Lubricant

1. Contractor may, at his option, use either pipe manufacturer's recommended gasket lubricant or a hydrated bentonite gel applied per manufacturer's instructions as joint lubricant.

Manufacturer:

- a. American Colloid Co. "Volclay".
- b. Or equal.

D. Banded Rubber Coupling

1. Two-component system suitable for bonding wet or dry concrete to each other and to other materials.

Manufacturer:

- a. Copolymer Chemicals, Inc., Detroit, MI, "Crete-Tac".
- b. H. B. Fuller Co., St. Paul, MN, "BC-013-14".
- c. W. R. Grace Co., A. C. Horn Products, Chicago, IL, "Thiopoxy-63".
- d. Or equal.

E. Tracer Tape

1. Warning tape shall be 6 inches wide, green plastic coated metallic tape with the words "CAUTION BURIED SEWER LINE BELOW" printed on each side.
2. The tape shall be a minimum of 5.5 mils thick and have an aluminum foil center. Minimum tensile strength shall be 5000 psi.

Manufacturer:

- a. Mark-line, Allen Systems Inc.
- b. Bradley Co.
- c. Line-Guard
- d. Or equal.

PART 3 - EXECUTION

3.1 GENERAL

- A. New Connections: Make complete connections to new or existing structures and utilities. Repair damage caused as a result of Work to comply with the contract Documents at no increase in the Contract sum.

3.2 EXISTING UTILITIES AND SERVICES

- A. The following construction methods are not intended to be completely detailed. Provide properly functioning systems per applicable referenced codes, manufacturer's instructions and standards, best accepted safe practice of the Trade and District Standard Details.

3.3 PIPING EARTHWORK

- A. Excavation and Backfill:

1. Perform excavating and backfilling required for the Work, per the procedures specified in the Earthwork and Grading Section and the following requirements.

2. Excavate to approximate bottoms and trim to lines and elevations in manner specified under Embedment. Embedment starts at final trimmed trench elevation and ends at 8 inches above the top of the pipe or component. Backfill starts 8 inches above pipe or component. Use manual methods of compaction of embedment and backfill materials in areas adjacent to buried construction and utilities to avoid damage or unscheduled service interruption. Limit trench width or embankment conditions to preclude excessive earth loads on installed piping system.

B. Embedment (Bedding and Initial Backfill)

1. Trim rough trench to subgrade and provide geotextile fabric and embedment as defined in the Earthwork and Grading Section and as indicated on the Drawings for full width of the trench. Shape bedding to provide full length barrel support and to prevent point loading at pipe joints. Carefully place bedding under pipe haunches.
2. Hand-grade base to proper grade ahead of pipe laying. Base shall provide a firm, unyielding support along entire pipe length. Grade the top of the base to the bottom of the pipe ahead of pipe laying for the full width of the trench.
3. Excavate bell holes at each joint to permit proper assembly and inspection of entire joint.
4. Particular attention must be given to the area of the pipe bedding from the flow line to the centerline of the pipe to ensure that firm support is obtained to prevent any lateral movement of the pipe during the final backfilling of the pipe zone.
5. Backfill the area of the pipe bedding from the bottom of the trench to the springline of the pipe with trench bedding material. The material around the pipe shall be placed in 4-inch layers and thoroughly tamped with approved tamping sticks supplemented by "walking in" and slicing with a shovel. Backfill the area of the pipe zone from the springline to a point 8-inches above the top outside surface of the barrel of the pipe with trench bedding and backfill material.
6. When the bottom of the excavation cannot support the pipe, excavate to further depth and refill to pipe laying grade with angular crushed drain rock, 3/4 inch maximum, per ASTM D448.

3.4 PIPING INSTALLATION

A. General:

1. Prior to lowering pipe and fittings into trench, clean and visually inspect for apparent defects. Remove defective pipe from the site promptly. Carefully lower all pipe, fittings, etc. into the trench with suitable tools or equipment in such a manner as to prevent damage to the pipe, lining, coating, fitting or other appurtenances. Prior to and during laying of pipe, maintain excavations dry and clear of water and extraneous materials.
2. Where existing sewer pipe is embedded in an underground concrete structure, provide joints within the specified distances of exterior surface of the structure, capable of absorbing movement without leakage.
3. Clean and lubricate elastomeric joints prior to assembly. Check recessed gaskets with feeler gages.

4. During the progress of construction, protect open ends of all pipe and fittings to prevent the admission of foreign matter. Place plugs or end boards in the ends of all installed work whenever work stops. Plugs shall be commercially manufactured products. Do not remove plugs unless or until the trench is dry.
 5. The new main and side sewer alignments shall be marked with metal tracer tape two feet below finished grade, centered above the pipe. The wording on the tape shall be faced to be readable from the top of the trench. Backfill on top of the tape shall be carefully placed to prevent tearing or damaging the tape. Terminate 1 foot of tape inside manhole placed under grade rings or frame of cover prior to grouting in place.
- B. Construction Tolerances:
1. Install the gravity lines at design line and grade as shown on the Drawings.
- C. Sanitary Side Sewers including TV Inspection required of Side Sewers:
1. The Contractor shall TV inspect any side sewer for a minimum 100 feet from the main line or until camera cannot be pushed into side sewer from main line trench. Contractor shall record all inspections with a DVD/USB Drive record provided to District in standard AVI or MP4 format including the date and site address.
 2. Reconnect active sanitary side sewers as they are encountered by the end of each work day. Connection of the new side sewer piping to exiting side sewer piping shall be completed by stainless steel banded rubber transition couplings.
 3. The new side sewer shall match the existing pipe size, but tap into mainline shall not be less than 4 inches in diameter.
 4. Any inactive sanitary side sewer encountered shall be cut clean and sealed with non-shrink grout at the trench wall. The Engineer and Contractor shall review TV Inspection of side sewer and confirm a side sewer is inactive before sealing operations begin.
- D. Manholes:
1. Manholes shall be constructed as specified in District Standard Detail M-1.
- E. Sheet piling, Shoring, And Bracing
1. This section specifies requirements for sheet piling, shoring and bracing of trenches and excavations greater than 5 ft. in depth.
 2. This section references the following documents. They are a part of this section as specified and modified. In case of conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail. Reference Title: CAL OSHA *State of California Construction Safety Orders California State Labor Code*. This section specifies requirements for sheet piling, shoring and bracing of trenches and excavations greater than 5 ft. in depth.
 3. The **Contractor** shall design sheet piling, shoring, and bracing in accordance with Article 6 of CAL OSHA and the *California State Labor Code*. The standards of design referred to in the Labor Code shall be those of CAL OSHA. The shoring procedure designed by the Contractor shall be suitable for the site subsurface conditions and project operational constraints.

4. The **Contractor** shall submit information required by Section 6705 of the *California State Labor Code*. Submittals shall be made in accordance with Section 01300, "Submittals."
5. The construction of sheeting, shoring and bracing shall not disturb the state of soil adjacent to or below the trench or excavation.

3.5 FIELD QUALITY CONTROL

A. Flushing Work:

1. Provide temporary and permanent piping, equipment, and materials required for flushing work. Coordinate cleaning of connections to existing systems with the Engineer.
2. If equipment and piping systems are not properly cleaned and flushed, pay for resultant damage, necessary cleaning and flushing of systems to which connection was made, and subsequent inspection at no additional cost to the District.
3. Clean out settled debris and dirt in the manholes after the flushing operation.
4. Clean the sewer main prior to TV inspection.

B. Cleaning Gravity Lines:

1. Sanitary sewer lines shall be cleaned by means of a pneumatic sewer cleaning ball and/or hydroflushing as directed by the Engineer. The sewer ball shall be of the Wayne type or approved equal. The sewer ball shall be the appropriate size to fit flush with the inside diameter of the sewer main to be cleaned. The cleaning ball shall be introduced into the sewer at the uppermost manhole and passed down grade by a line with a sufficient head of water to carry the ball slowly along the inside of the pipe.

Where sewer balls will not pass through the sewer, the cleaning ball shall be removed and the obstruction removed.

The Contractor shall be required to remove all debris collected during the cleaning operation.

2. After cleaning the sewer main the Contractor shall thread a 1/4" nylon rope through the pipeline from manhole to manhole. Ten (10) feet of slack shall be left in each manhole and the rope shall be securely attached to the manhole.

3.6 TV INSPECTION

- A. At the completion of initial cleaning, the Contractor shall arrange for the Engineer to perform a television inspection of all new sewer lines, at the District's expense. The Contractor shall follow the procedures and make any necessary repairs.
- B. The District may conduct at their expense a TV inspection of the new sewer lines at the eleventh month of the warranty period. The Contractor has the option of being present

during the TV inspection. The Contractor shall repair or replace at his expense any damaged sections of pipe such as leaking joints, cracked or severed pipe, sags in the line, etc., identified from the District's TV inspection by the Engineer.

- C. The following observations from television inspections by the Engineer shall be considered defects in the construction of sewer pipelines and will require correction by the Contractor at no expense to the District prior to final paving:
1. Low spots (1" or greater - trunk and main lines only).
 2. Joint separations (three quarters inch [3/4"] or greater opening between pipe sections).
 3. Cocked joints present in straight runs or on the wrong side of pipe curves.
 4. Chips in pipe ends.
 5. Cracked or damaged pipe.
 6. Dropped Joints.
 7. Infiltration.
 8. Debris or other foreign objects.
 9. Other obvious deficiencies.
 10. Irregular condition without logical explanation.

The District shall conduct a television inspection after repairs have been completed. The Contractor shall be responsible for the cost to the District to conduct the additional television inspection.

PART 4 - MEASUREMENT AND PAYMENT

- 4.1 Payment. Payment for Sanitary Sewer shall be at the contract price per quantities measured and shall be considered full compensation for all labor, materials, tools, equipment, and incidentals to do all the work involved. The quantities will be measured as follows:
- A. 8" C900 PVC Sewer Lateral in unit of linear feet (**Bid Item #5.01**).
 - B. Tie into existing Sanitary Sewer Manhole in unit of each item (**Bid Item #5.02**).
 - C. Install New/Extend existing Sanitary Sewer Cleanouts to new sidewalk elevation in unit of each item (**Bid Item #5.03**).
 - D. Extend existing Sanitary Sewer Manhole Rim to new Pavement Elevation in unit of each item (**Bid Item #5.04**).
 - E. Payment for Sheet piling, Shoring, Bracing (for excavations deeper than 5') shall be by lump sum. The lump sum price bid for **Sheet piling, Shoring, Bracing (Bid Item #5.05)** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved.

16.2.09 CAST-IN-PLACE CONCRETE FORMWORK

PART 1 - GENERAL

- 1.1 SCOPE
- A. Formwork for cast-in-place concrete, with shoring, bracing, and anchorage.
 - B. Openings for other work.
 - C. Form accessories.

- D. Form stripping.

1.2 REFERENCES

- A. ACI 347, Guide to Formwork for Concrete
- B. ACI 318, Building Code Requirements for Structural Concrete and Commentary
- C. PS-1, Construction and Industrial Plywood
- D. ACI 301, Specifications for Structural Concrete
- E. California Code of Regulations, Title 24, Part 2, 2013 California Building Code (CBC)

1.3 DESIGN REQUIREMENTS

- A. Design, engineer, and construct formwork, shoring and bracing to conform to design and code requirements; resultant concrete to conform to required shape, line, and dimension.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with ACI 347 and ACI 318.

1.5 REGULATORY REQUIREMENTS

- A. Conform to 2013 CBC for design, fabrication, erection, and removal of formwork.

1.6 COORDINATION

- A. Coordinate this Section with other Sections of work which require attachment of components to formwork.
- B. If formwork is placed after reinforcement resulting in insufficient concrete cover over reinforcement, request instructions from Engineer before proceeding.

PART 2 – PRODUCTS

2.1 WOOD FORM MATERIALS

- A. Form Materials
 - 1. At the discretion of the Contractor.

2.2 PREFABRICATED FORMS

- A. Preformed Steel Forms

1. Minimum 16 gage matched, tight fitting, stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of finished surfaces.
 - B. Glass Fiber Fabric Reinforced Plastic Forms
 1. Matched, tight fitting, stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of finished concrete surfaces.
- 2.3 FORMWORK ACCESSORIES
- A. Form Ties
 1. Snap-off type, galvanized metal, adjustable length, cone type, free of defects that could leave holes larger than 1¼-inch in concrete surface.
 - B. Form Release Agent
 1. Colorless mineral oil which will not stain concrete, absorb moisture, or impair natural bonding or color characteristics of coating intended for use on concrete.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Verify lines, levels and centers before proceeding with formwork. Ensure that dimensions agree with Drawings.

3.2 EARTH FORMS

- A. Earth forms are permitted, subject to review by the project geotechnical and structural engineers.

3.3 ERECTION - FORMWORK

- A. Erect formwork, shoring and bracing to achieve design requirements, in accordance with requirements of ACI 301.
- B. Provide bracing to ensure stability of formwork. Shore or strengthen formwork subject to over-stressing by construction loads.
- C. Arrange and assemble formwork to permit dismantling and stripping. Do not damage concrete during stripping. Permit removal of remaining principal shores.
- D. Align joints and make watertight. Keep form joints to a minimum.
- E. Obtain approval before framing openings in structural members which are not indicated on Drawings.
- F. Provide 3/4" chamfer strips on external corners of all exposed concrete.

3.4 APPLICATION - FORM RELEASE AGENT

- A. Apply form release agent on formwork in accordance with manufacturer's recommendations.
- B. Apply prior to placement of reinforcing steel, anchoring devices, and embedded items.
- C. Do not apply form release agent where concrete surfaces will receive special finishes or applied coverings which are effected by agent. Soak inside surfaces of untreated forms with clean water. Keep surfaces coated prior to placement of concrete.

3.5 INSERTS, EMBEDDED PARTS, AND OPENINGS

- A. Provide formed openings where required for items to be embedded in or passing through concrete work.
- B. Locate and firmly set in place items which will be cast directly into concrete.
- C. Coordinate work of other Sections in forming and placing openings, slots, reglets, recesses, chases, sleeves, bolts, anchors, and other inserts.
- D. Install accessories in accordance with manufacturer's instructions, straight, level, and plumb. Ensure items are not disturbed during concrete placement.
- E. Provide temporary ports or openings in formwork where required to facilitate cleaning and inspection. Locate openings at bottom of forms to allow flushing water to drain.
- F. Close temporary openings with tight fitting panels, flush with inside face of forms, and neatly fit so joints will not be apparent in exposed concrete surfaces.

3.6 FORM CLEANING

- A. Clean and remove foreign matter within forms as erection proceeds.
- B. Clean formed cavities of debris prior to placing concrete.
- C. Flush with water or use compressed air to remove remaining foreign matter. Ensure that water and debris drain to exterior through clean-out ports.

3.7 FORMWORK TOLERANCES

- A. Construct formwork to maintain tolerances required by ACI 301.

3.8 FIELD QUALITY CONTROL

- A. Inspect erected formwork, shoring, and bracing to ensure that work is in accordance with formwork design, and that supports, fastenings, wedges, ties, and items are secure.

3.9 FORM REMOVAL

- A. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight and imposed loads.
- B. Loosen forms carefully. Do not wedge pry bars, hammers, or tools against finish concrete surfaces to be exposed to view.
- C. Store removed forms in manner that surfaces to be in contact with fresh concrete will not be damaged. Discard damaged forms.

PART 4 - MEASUREMENT AND PAYMENT

- 4.1 Full compensation for cast-in-place concrete formwork shall be considered as included in the contract lump sum prices paid for items involved, and no separate payment shall be made therefore.

16.2.10 CONCRETE REINFORCEMENT

PART 1 - GENERAL

1.1 SCOPE

- A. Reinforcing steel bars, wire fabric and accessories for cast-in-place concrete.

1.2 REFERENCES

- A. ACI 301, Specifications for Structural Concrete
- B. ACI 318, Building Code Requirements For Structural Concrete and Commentary
- C. ACI SP-66, –ACI Detailing Manual
- D. ASTM A82, Standard Specification for Steel Wire, Plain, for Concrete Reinforcement
- E. ASTM A706, Standard Specification for Low-Alloy Steel, Deformed and Plain Bars for Concrete Reinforcement
- F. CRSI, Concrete Reinforcing Steel Institute Manual of Practice
- G. California Code of Regulations, Title 24, Part 2, 2013 California Building Code (CBC), Chapter 19

1.3 SUBMITTALS

- A. Manufacturer's certificate: Certify that products meet or exceed specified requirements.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with ACI 318 and 2013 CBC, Chapter 19.
- B. Submit certified copies of mill test report of reinforcement materials analysis.

1.5 COORDINATION

- A. Coordinate with placement of formwork, formed openings and other Work.

PART 2 – PRODUCTS

2.1 REINFORCEMENT

- A. Reinforcing Steel
 - 1. ASTM A706, 60 ksi yield grade; deformed billet steel bars. The actual yield strength based on mill test shall not exceed the specified yield strength by more than 18,000 psi, retest shall not exceed this value by 3,000 psi and the ratio of the actual ultimate tensile stress to the actual tensile yield strength shall not be less than 1.25.

2.2 ACCESSORY MATERIALS

- A. Tie Wire
 - 1. Minimum 16 gage annealed type patented system.
- B. Chairs, Bolsters, Bar Supports, Spacers
 - 1. Sized and shaped for strength and support of reinforcement during concrete placement conditions including load bearing pad on bottom to prevent vapor barrier puncture.

2.3 FABRICATION

- A. Fabricate concrete reinforcing in accordance with ACI 318 and 2013 CBC, Chapter 19.
- B. Welding of reinforcing bars is not permitted.
- C. Provide reinforcing splices only as indicated on Drawings.

PART 3 – EXECUTION

3.1 PLACEMENT

- A. Place, support and secure reinforcement against displacement. Do not deviate from required position.
- B. Accommodate placement of formed openings.
- C. Conform to ACI 318 code for concrete cover over reinforcement.

3.2 FIELD QUALITY CONTROL

- A. Field inspection will be performed as indicated in the Special Provisions.

PART 4 - MEASUREMENT AND PAYMENT

- 4.1 Full compensation for concrete reinforcement shall be considered as included in the contract lump sum prices paid for items involved, and no separate payment shall be made therefore.

16.2.11 Concrete Curb, Concrete Curb & Gutter

A. Description. The construction of concrete curb, concrete curb & gutter, concrete rolled curb and concrete median curb shown on the plans shall conform to the provisions in Section 73 "Concrete Curbs and Sidewalks" of the State Standard Specifications and the details shown in:

- 1) Concrete Curb - Type A1-6 - Standard Plan No. A87A of the Caltrans Standard Plans
- 2) Concrete Curb & Gutter - Standard Plan No. SA-03 of the City of San Pablo Standard Details
- 3) These special provisions

Class 2 aggregate base conform to the requirements specified elsewhere in these special provisions.

Expansion joints shall be constructed at twenty foot (20') intervals or as required by the Standard Plans. Controls joints and scoring shall match adjacent existing curb and gutter or shall be as directed by the Engineer. The new back of curb shall match the existing concrete driveways or walkways. Minor adjustments of the height of curb may be required within one-half inch (1/2") without adjusting the cross section.

Curb and gutter shall be water tested in the presence of the Engineer prior to acceptance to verify that water will flow along the flow line of the replaced curb and gutter. No standing water will be allowed. The finished surface shall be free from humps, sags, and other irregularities.

Concrete shall be 5 sack with 1 # lamp black added per cubic yard. All new concrete shall be sprayed uniformly with a clear curing compound. The material, method, and rate of application shall conform to Section 90-1.03B(3), "Curing Compound Method," of the State Specifications except that only non-pigmented curing compound conforming to the requirements of ASTM Designation: C 309, Type 1, Class B, or of AASHTO Designation: M 148, Type 1-D, shall be used.

All new Portland Cement Concrete (PCC) improvements shall be doweled to existing PCC improvements as directed by the Engineer using twelve inch (12") long No. 4 rebar as shown on the plans.

B. Measurement. Quantities of Concrete Curb and Concrete Curb & Gutter shall be measured by the linear foot.

C. Payment. **Concrete Curb & 18" Gutter (Bid Item #6.01) and Concrete Curb (Bid Item #6.02),** will be paid for at the contract unit bid price per linear foot, and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all work involved in constructing concrete curb, concrete curb & gutter, concrete rolled curb and concrete median curb complete in place, including saw cutting, concrete curb repair as needed, excavation, subgrade preparation, furnishing, placing and compaction of aggregate base, and

placement of reinforcement as shown on the plans, as required by these Special Provisions, and as directed by the Engineer.

16.2.12 Concrete Sidewalk, Concrete Driveway and Concrete Valley Gutter

A. Description. The construction of concrete sidewalk, concrete driveway and concrete valley gutter shown on the plans shall conform to the provisions in Section 73 "Concrete Curbs and Sidewalks" of the State Standard Specifications and the details shown in:

- 1) Concrete Sidewalk & Concrete Driveway - Standard Plan No. SA-01, SA-03 and SA-04 of the City of San Pablo Standard Details
- 2) Concrete Valley Gutter - Standard Plan No. CA73 of the Contra Costa County Public Works Department Standard Details or Standard Plan No. SD-01 of the City of San Pablo Standard Details
- 3) These Special Provisions.

Class 2 aggregate base shall be placed under concrete sidewalk and driveway and shall conform to the requirements specified elsewhere in these Special Provisions.

Concrete shall be 5 sack with 1 # lamp black added per cubic yard. All new Portland Cement Concrete (PCC) improvements shall be doweled to existing PCC improvements as directed by the Engineer using twelve inch (12") long No. 4 rebar as shown on the plans.

B. Measurement. Quantities of Concrete Sidewalk, Concrete Driveway and Concrete Valley Gutter shall be measured by the square foot. The area of the driveway shall include the driveway ramp, flares, sidewalk, curb and gutter adjacent to the driveway, and retaining curb, if any, as shown on the plans.

C. Payment. **Concrete Sidewalk (Bid Item #6.05) & Concrete Driveway (Bid Item #6.06), and Concrete Valley Gutter (Bid Item #6.07)**, will be paid for at the contract unit bid price per square foot and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work involved in constructing concrete sidewalk, concrete driveway and concrete valley gutter, complete in place, including saw cutting, concrete repair as needed, excavation, subgrade preparation, furnishing, placing and compaction of aggregate base, and placement of reinforcement as shown on the plans, as required by these special provisions, and as directed by the Engineer.

16.2.13 Perforated Concrete Curb & Gutter, Perforated Concrete Curb and Vegetated Swale Concrete Check Dams

A. Description. The construction of perforated concrete curb & gutter and perforated concrete curb shown on the plans shall conform to the provisions in Section 73 "Concrete Curbs and Sidewalks" of the State Standard Specifications, the details on the plans, and these special provisions.

Class 2 aggregate base shall be placed under concrete sidewalk and driveway and shall conform to the requirements specified elsewhere in these Special Provisions.

Concrete shall be 5 sack with 1 # lamp black added per cubic yard. All new Portland Cement Concrete (PCC) improvements shall be doweled to existing PCC improvements as directed by the Engineer using twelve inch (12") long No. 4 rebar as shown on the plans.

B. Measurement. Quantities of Perforated Concrete Curb & Gutter and Perforated Concrete Curb shall be measured by the linear foot; Vegetated Swale Concrete Check Dams shall be measured in unit by each.

C. Payment. **Perforated Concrete Curb (Bid Item #6.03) & Gutter and Perforated Concrete Curb (Bid Item #6.04)**, will be paid for at the contract unit bid price per linear foot and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work involved in constructing perforated concrete curb & gutter and perforated concrete curb, complete in place, including saw cutting, concrete repair as needed, excavation, subgrade preparation, furnishing, placing and compaction of aggregate base, and placement of reinforcement as shown on the plans, as required by these special provisions, and as directed by the Engineer.

Vegetated Swale Concrete Check Dams (Bid Item #6.13), shall be paid for at unit price for each and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work involved in constructing perforated concrete curb & gutter and perforated concrete curb, complete in place, including saw cutting, concrete repair as needed, excavation, subgrade preparation, furnishing, placing and compaction of aggregate base, and placement of reinforcement as shown on the plans, as required by these special provisions, and as directed by the Engineer.

16.2.14 Concrete Curb Ramps

A. Description. The construction of concrete curb ramps shall conform to the applicable provisions in Section 73 "Concrete Curbs and Sidewalks" of the State Standard Specifications, Standard Plan No. A88A & A88B of the Caltrans Standard Plans, the details on the plans, and these special provisions.

The work involved for Curb Ramp shall generally require:

- (1) Construction staking and layout
- (2) Subgrade preparation, including excavation, placement and compaction of aggregate base
- (3) Construction of new ramp (including the installation of a prefabricated detectable warning surface, as shown on the plans, in conformance with the manufacturer's recommendations)
- (4) Depressed style ramps shall include retaining curb (unless noted otherwise on plans)
- (5) Maintain gutter flow elevations and demonstrate this to the City inspector by water flow test to ensure there's no ponding.

Curb ramp detectable warning surface shall consist of raised truncated domes constructed or installed on curb ramps in conformance with the details shown on the plans and these special provisions. The detectable warning surface shall be prefabricated, cast-in-place. The color of the detectable warning surface shall be yellow conforming to Federal Standard 595B, Color No. 33538. Contractor shall neatly trim prefabricated dome panels to fit and conform to curb radius.

Prefabricated detectable warning surface shall be in conformance with the requirements established by the Department of General Services, Division of State Architect and be attached in conformance with the manufacturer's recommendations, Armor Tile or approved equal.

The finished surfaces of the detectable warning surface shall be free from blemishes.

The manufacturer shall provide a written 5-year warranty for prefabricated detectable warning surfaces, guaranteeing replacement when there is defect in the dome shape, color fastness, sound-on-cane acoustic quality, resilience, or attachment. The warranty period shall begin upon acceptance of the contract.

Class 2 aggregate base, $\frac{3}{4}$ in. size, shall be placed under curb ramps, after excavating existing subgrade, with a minimum thickness of 4 inches, and be compacted to 95% relative compaction (ASTM D-1557)

Concrete shall be 5 sack mix with 1 # lamp black added per cubic yard.

Steel reinforcement shall be used in all concrete ramps, including concrete curb & gutter and retaining curb, and shall conform with Standard Plan No. SA-03 of the City of San Pablo Standard Details, including doweling into existing sidewalk, curb and gutter; minimum reinforcement is #4 bars at 18 in. each way.

All new Portland Cement Concrete (PCC) improvements shall be doveled to existing PCC improvements as directed by the Engineer using twelve inch (12") long No. 4 rebar as shown in the Detail No. SA-03 (shown on the plans) of the City of San Pablo Standard Details

Landscaping, yard drain pipes, and sprinkler heads and lines located near the existing back of sidewalk or sidewalk ramp shall be protected from damage. Sewer cleanouts located near the existing back of sidewalk or curb ramp shall also be protected from damage and remain free of debris. Any damage shall be repaired at the Contractor's expense to the satisfaction of the Engineer.

SURFACE APPLIED TRUNCATED DOMES

The Bid Item for Surface Applied Truncated Domes shall apply to locations where no curb ramp is to be installed and only truncated domes are to be installed for facilitation of the visually impaired. Truncated domes shall be made of Armor-Tile surface mounted truncated domes, or approved equivalent. Truncated domes shall be installed per the manufacturer's instructions. These truncated domes surfaces shall match the slopes of the surrounding pathway. These truncated domes shall be consistent with other truncated domes installed throughout the project. All requirements for installation of truncated domes on curb ramps and these special provisions shall apply insofar as they apply.

Surface Applied Truncated Domes Material:

- a) Fasteners: Color matched, corrosion resistant, flat head drive anchor: $\frac{1}{4}$ " diameter x 1 $\frac{1}{2}$ " long as supplied by Engineered Plastics Inc., or approved equal.
- b) Adhesive: Armor-Bond as supplied by Engineered Plastics Inc., or approved equal.
- c) Sealant: Armor-Seal as supplied by Engineered Plastics Inc., or approved equal.

B. Measurement. Concrete curb ramps shall be measured in the field by actual count.

C. Payment. The contract unit price paid each for **Concrete Curb Ramps Type A (Bid Item #6.10a) and Type C (Bid Item #6.10b)**, shall include full compensation for excavation, relocation of existing utility boxes and signs (except where specific pay items are designated for same), and preparation of sub-grade; furnishing, placing, and compacting aggregate base; furnishing and placing all reinforcement; drilling and grouting dowel reinforcement; furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in constructing the concrete curb ramps complete in place, including concrete retaining curb (for depressed style ramps), curb and gutter associated with the ramp installation, sawcutting, detectable warning surfaces/truncated domes, and patching and repaving of the asphalt concrete in the street (with permanent hot mix) as shown on the plans (except where specific pay items are designated for same), as

specified in the Standard Specifications, these Special Provisions, and as directed by the City Engineer.

16.2.15 Hot Mix Asphalt (HMA) & Survey Street Monuments

A. Description. This work includes producing and placing hot mix asphalt (HMA) Type A using the "Standard" process. Comply with Section 39, "Hot Mix Asphalt," of the State Standard Specifications except as modified herein.

MATERIALS

Aggregate base shall be Class 2, 3/4 inch maximum size, and shall conform to the provisions in Section 26, "Aggregate Bases," and compaction shall conform to Section 26-1.03D of the State Standard Specifications and these Special Provisions.

Liquid asphalt for prime coat shall be SC70, and shall conform to the provisions in Section 93, "Liquid Asphalts," of the State Standard Specifications and these Special Provisions.

Asphaltic emulsion for paint binder shall be SS1-H, and shall conform to the provisions in Section 94, "Asphaltic Emulsions," of the State Standard Specifications and these Special Provisions.

The paving asphalt shall be performance graded asphalt binder PG 64-10, and shall conform to the provisions in Section 92, "Asphalts," of the State Standard Specifications and these Special Provisions.

The mineral aggregates for HMA Type A & B plant-mixed asphalt shall be 1/2 inch maximum, medium gradation, and shall conform to the provisions in Section 39, "Hot Mix Asphalts," of the State Standard Specifications and these Special Provisions.

Modify 39-2.03A Testing as follows:

Quality Characteristic: Percent of maximum theoretical density (%) for HMA Types A & B to 92% to 96%. Retain footnotes e & f. Add the footnotes k through m to this requirement:

- k. Perform testing in accordance with CT 375
- l. Maximum lot size shall be 500 tons
 - 1. Maximum 3 test sites per location, 1 test for each 50 tons thereafter.
 - 2. Each street segment shall be an independent lot(s)
- m. Failing test shall be verified by coring if requested by the Contractor. Contractor obtains cores at locations randomly determined by Engineer. Engineer tests cores.

If requested by the Contractor and approved by the Engineer, non-nuclear gauges may be substituted for use in CT 375.

Submittals:

Submit JMF information on Form CEM-3511 and Form CEM-3512. Submit Form CEM-3513 for mixes that have been verified within last 12 months. For unverified mixes, coordinate mix verification with Engineer.

Submit quality Control Plan that conform to the current Caltrans Quality Control Plan Review Checklist for Hot Mix Asphalt. Allow 20 calendar days for review.

Delivery Tickets: Each delivery ticket shall include information on the material type, binder type, oil content, and the mix design number. Materials delivered to the project without such annotations shall be subject to rejection.

Sampling

The Owner's Engineer will have the right to obtain samples of all materials to be used in the work and to test such samples for the purpose of determining specification compliance. The Owner reserves the right to obtain said samples at the point of delivery and/or at the point of manufacture. The Owner shall also have the right to inspect sources of materials to be used in the work to determine workmanlike procedures used by the materials supplier

CONSTRUCTION

Tack coat shall be applied to all construction joints, against which new HMA is to be placed.

Place shoulder conform tapers concurrently with the adjacent lane's paving. Place additional HMA along the pavement's edge to conform to road connections and private drives. Hand rake, if necessary, and compact the additional HMA to form a smooth conform taper.

Transportation and Placement

The asphalt concrete shall be delivered in a thoroughly blended condition and shall be spread by an asphalt paving machine in such a manner as to avoid segregation during the placing operations. Areas inaccessible to spreading and compaction equipment may be paved by such methods as may be approved by the Owner's Engineer. All mixtures shall be spread at a temperature not less than 275 degrees Fahrenheit, and not greater than 315 degrees Fahrenheit. Initial rolling shall be performed immediately after placement. No asphalt concrete is to be placed when the atmospheric temperature is below 50 degrees Fahrenheit.

EQUIPMENT

Paving Machine

Asphalt pavers shall be mechanical spreading and finishing equipment, provided with a screed or strikeoff assembly capable of distributing the material to not less than eight (8) feet. Screed action shall include any cutting, crowding or other practical action which is effective on the mixture without tearing, shoving, or gouging, and which produces a surface texture of uniform appearance. The screed shall be adjustable to the required section and thickness. The paver shall be provided with a full width roller or tamper or other suitable compacting devices. Pavers that leave ridges, indentations or other marks in the surface shall not be used unless the ridges, indentations or other marks are eliminated by rolling or prevented by adjustment in operations.

Compactive Rollers

The Contractor shall furnish equipment capable of producing the required compaction. Vibratory rollers shall be double steel drum and have adjustable amplitude settings.

Hand Equipment

Sufficient vibraplates and hand tampers shall be provided to assure their immediate availability when placing asphalt concrete around planters, inside corners, or irregular areas. Torches for heating cold joints or making repairs shall be available during every paving operation. Lack of such hand equipment shall be cause to prevent paving from starting or continuing.

Tack Coat

Tack coat shall be applied to all vertical surfaces of existing pavement, curbs, gutters, and construction joints, against which additional material is to be placed, to a new or old pavement to be overlaid, and to other surfaces as designated by the Owner's Engineer. Shields for protecting curb faces shall be provided and used during tacking of curb faces.

If the paving oil or emulsion is applied undiluted, it shall be applied at a rate of 0.05 to 0.15 gallons per square yard. If the emulsion is applied diluted 1:1 with water, it shall be applied at a rate of 0.10 to 0.30 gallons per square yard, as directed by the Engineer.

WORKMANSHIP

Finished Surface

The completed surfacing shall be thoroughly compacted, smooth, and free from ruts, humps, depressions, irregularities, rock pockets, excessive coarse aggregate, and roller marks.

Any ridges, indentations, or other objectionable marks left in the surface of the asphalt concrete shall be eliminated by rolling or other means. The use of any equipment that leaves ridges, indentations, or other objectionable marks in the asphalt concrete shall be discontinued.

The Contractor shall provide sufficient manpower and manual compacting equipment to perform all handwork compaction in unison with the initial compaction rolling. If the handwork compaction begins to lag for whatever reason, the Contractor shall cease paving operations until the handwork compaction is caught up with the rest of the paving operation.

Areas of hand work at joints and miscellaneous structures shall match the smooth surface texture of all other areas of the new pavement. Any areas which have a rough surface texture shall be reworked with heat and asphalt concrete fines shall be placed. Coarse aggregate removed during raking shall not be returned to the finished mat surface. Such coarse aggregate may be returned to the hopper of the paving machine or spread immediately in front of the paver. Cold coarse aggregate shall not be reused, but discarded.

Finished areas of asphalt concrete adjacent to concrete drainage facilities shall be placed in such a manner that the finished surface is no greater than 1/4 inch higher than the facility and no lower than flush with the facility.

Cold Joints

The contractor shall heat by torch or other acceptable methods paving joints which do not receive an adjacent pass within 3 hours of placement. If the cold joint goes unpaved against overnight, the contractor shall heat the joint and place tack coat prior to placing the adjacent pass. Longitudinal pavement joints shall be on, or as close as possible to, the lane lines.

B. Payment. Payment for **Hot Mix Asphalt (HMA) (Bid Item #6.08)**, shall be at the contract price per ton and shall be considered full compensation for all labor, materials, tools, equipment, and incidentals to do all the work involved. The contractor shall supply weight tags to the Engineer on a daily basis. Quantities of asphalt concrete will be determined and approved by the Engineer by using the tags. Asphalt concrete weight tags shall contain the project name and indicate tonnage used.

Survey Street Monuments (Bid Item #6.11), shall be installed in unit of each per the Contra Costa County Standard Plan CA40 and shall be considered full compensation for all labor, materials, tools, equipment, and incidentals to do all the work involved.

16.2.16 Polymer Modified Slurry Seal

A. Description. The work to be done consists of furnishing all labor, equipment and materials and performing all operations necessary for the application of a polymer modified asphalt slurry seal surface over the existing AC pavement surfaces.

The slurry seal shall consist of a mixture of a polymer modified asphalt emulsion, mineral aggregate, mineral filler, water and specified additives. The materials shall be properly

proportioned, mixed and uniformly spread over a properly prepared surface as specified in the Standard Specifications, these Special Provisions, and as directed by the Engineer. The slurry seal shall conform to the requirements of Section 37-2, "Slurry Seal" of the Standard Specifications of the California Department of Transportation except where specified otherwise in these provisions.

The completed slurry seal shall leave a homogeneous mat, adhere firmly to the prepared surface, and have a friction resistant surface texture throughout its service life.

PRE-CONSTRUCTION MEETING

The Contractor shall meet with the Engineer in a pre-construction meeting to present a written schedule for the work listing dates on which streets, roadways or other locations are to be closed to traffic. In addition, issues regarding safety, traffic control and access by public services shall be discussed.

The Contractor shall present a mix design and laboratory reports and calibration reports as required by these specifications during the pre-construction meeting.

MATERIAL SAMPLING

The Engineer or his representative shall be permitted to take samples of materials from the project at any time. The agency may elect to perform testing on the samples to verify compliance of the materials with the specifications.

Testing - Testing shall be undertaken by the Engineer whenever deemed necessary. The Engineer, or his representative, may suspend the application of the slurry seal whenever changes in the materials or quality of the applied slurry are noted. Work shall resume only when the noted deficiencies are corrected to the satisfaction of the Engineer. When work is suspended for this reason, samples will be taken immediately.

The Engineer may send samples to a testing laboratory. Testing will be at the City's expense unless deficiencies are verified by the testing. The Contractor shall reimburse the City for the cost of any testing required by deficient materials or application of the slurry mix.

Aggregate, if tested, should at a minimum be tested for the following:

Gradation	CTM 202; AASHTO T11, T27; ASTM C117, C136
Sand Equivalent	ASTM D2419
Moisture Content	CTM 226, 231; AASHTO T265; ASTM D2216

SLURRY SEAL APPLICATION.

Materials

Asphalt Emulsion

1. The emulsified asphalt shall be designated as grade PMCQS-1h, in conformance with Section 94, "Asphalt Emulsions" of the Standard Specifications.
2. The polymer within the asphalt emulsion shall be, at the option of the Contractor, either Neoprene, SBR, EVA or SBS. Solid polymers such as EVA or SBS shall be adequately blended into the asphalt prior to emulsification. If a liquid latex such as Neoprene, SBR

or similar is used, the latex shall be “co-milled” into the emulsion through the water phase during manufacturing. Each load of polymer asphaltic emulsion shall have a certificate from the asphalt emulsion manufacturer guaranteeing that either asphalt blending or “co-milling” processes were used. The certificate shall also state the percentage of the solid rubber polymer added by weight of the asphalt as well as the composition of the polymer. The addition of latex to the emulsion after emulsion manufacturing is prohibited. The certificate shall state if the emulsion supplied is the same as that used in the mix design.

3. The polymer modified asphalt emulsion shall conform to the following specifications:

TEST	TEST METHOD	REQUIREMENT	
<i>Tests on emulsion:</i>			
Viscosity SSF, @ 77°F, seconds	AASHTO T 59	Minimum 15	Maximum 90
Settlement, 5 days, %	AASHTO T 59	--	5
Storage Stability Test, 1 day, %	AASHTO T 59	--	1.0
Distillation:			
Oil distillate by volume of emulsion, %	AASHTO T 59	--	3
Residue by Evaporation, %	CTM 331	60	--
<i>Tests on residue from Evaporation using CTM 331:</i>			
Penetration, 77°F, 100 grams for 5 seconds, dmm	AASHTO T 59	40	65
Ductility, 77°F, 5 cm/min, cm (RTFO Aged Residue)	AASHTO T 51	60	--
Ring & Ball Softening Point, °F	AASHTO T 53	123	--
Polymer Content *, %	CTM 401	3.0%	--
*Solid polymer content based on weight of asphalt			
OR			
Torsional Recovery, %	CTM 332	18	--

Mineral Aggregate

1. Aggregate shall consist of rock dust and plaster sands of similar nature, except that any aggregate or combination of aggregates shall be produced by crushing rock. To assure the material is totally crushed, 100% of the parent aggregate shall be larger than the largest stone in the gradation to be used. All materials shall be free from vegetable matter and other deleterious substances, oversized particles and caked lumps.
2. When tested in accordance to AASHTO T27 (ASTM C136) and AASHTO T11 (ASTM C117), the aggregate gradation (including the mineral filler) shall be within following bands:

Type II

<u>Sieve Sizes</u>	<u>Percentage Passing</u>	<u>Stockpile Tolerance</u>
9.5 mm (3/8")	100	± 5%
4.75 mm (#4)	94-100	± 5%
2.36 mm (#8)	65-90	± 5%
1.18 mm (#16)	40-70	± 5%
600 um (#30)	25-50	± 5%
330 um (#50)	18-30	± 4%
150 um (#100)	10-21	± 3%
75 um (#200)	5-15	± 2%

3. After the target gradation has been submitted and identified in the mix design then the percent passing each sieve shall not vary by more than the stockpile tolerance and still remain within the gradation band during the application of slurry seal.

4. The mineral aggregate shall also conform to the following:

<u>Test</u>	<u>Test Method</u>	<u>Requirements</u>
Sand Equivalent	ASTM D 2419	45 Minimum
Loss in L.A. Rattler (100 Revolutions)	CTM 211	10% Maximum
Loss in L.A. Rattler (500 Revolutions)	CTM 211	35% Maximum
Durability Index	ASTM D 3744	60 Minimum

Mineral Filler

Mineral Filler shall be either Portland Cement, hydrated lime, limestone dust, fly ash or other approved filler meeting the requirements of ASTM D242 and shall be used if required by the mix design. The mineral filler shall be considered as part of the aggregate in calculations regarding slurry seal asphalt content.

Water

The water added to the slurry seal shall be potable and be free of harmful salts and contaminants.

Additives

Additives may be used to accelerate or retard the mixing and setting characteristics of the slurry seal, or improve the resulting finished surface. The use of additives in the slurry mix (or individual materials) shall be made initially in quantities predetermined by the mix design with field adjustments if required. If the use of additive during application requires a greater than + or -

1.0% deviation from the recommendations of the mix design, a new mix design will be performed to verify system performance at higher or lower additive levels.

MIX DESIGN AND PRE-QUALIFICATION OF MATERIALS.

During the pre-construction meeting, the Contractor shall submit a signed mix design covering the specific materials to be used on the project. Compatibility of the aggregate, emulsion, mineral filler, and other additives shall be verified by the mix design. The mix design shall be made with the same aggregate gradation that the contractor shall provide on the project.

The mix design shall be performed and dated within 30 days prior to the application of slurry seal. This mix design testing shall be performed by a laboratory capable of performing the all tests listed in these specifications. The laboratory shall certify on the mix design that it has had at least two years of experience in the design of slurry seals.

After the mix design has been approved, no substitution or changes of materials shall be permitted, unless approved by the Engineer. If changes in materials are approved by the Engineer, a new mix design shall be performed by the Testing Laboratory before the application of new materials. All costs associated with a change in materials proposed by the Contractor shall be born by the Contractor.

Required tests and values are as follows:

<u>TEST</u>	<u>DESCRIPTION</u>	<u>SPEC</u>
ISSA TB-113	Mix Time (Mixing test and set time test shall be done at the highest temperatures expected during construction.)	Controllable to 180 sec minimum
ISSA TB-139	Wet Cohesion	
	30 minutes min	12kg-cm minimum
	60 minutes min	20kg-cm minimum
ISSA TB-109	Excess Asphalt by LWT Sand Adhesion	50g/ft ² maximum (538 g/m ² maximum)
ISSA TB-114	Wet Stripping	Pass (90% minimum)
ISSA TB-100	Wet Track Abrasion Loss	50g/ft ² maximum
	One hour soak	(807 g/m ² maximum)

The Wet Track Abrasion test is used to determine the minimum asphalt content.

The laboratory shall also report the quantitative effects of moisture content on the unit weight of the aggregate (bulking effect). The report must clearly show the proportions of aggregate, mineral filler (min. and max.), water (min. and max.), additive(s) (usage), and asphalt emulsion based on the dry weight of the aggregate.

The percentages of each individual material required shall be shown in the laboratory report. Adjustments may be required during the construction, based on the field conditions. The Engineer shall give final approval for all such adjustments.

The Engineer shall approve the mix design and all slurry seal materials and methods prior to use. The component materials shall be within the following limits:

RESIDUAL ASPHALT 7.5% - 13.5% (approx. 12.0 - 22.0% emulsion)
Based on dry weight of aggregate.

MINERAL FILLER 0.0% - 2.0%
Based on dry weight of aggregate.

ADDITIVES As needed to control mixing and setting times.
WATER As needed to achieve proper mix consistency.

PROPORTIONING.

Proportioning shall conform to the provisions in Section 37-2.04, "Proportioning" of the State Standard Specifications and these special provisions.

The aggregate shall be proportioned using a belt feeder operated with an adjustable cutoff gate. The height of the gate opening shall be readily determinable. The emulsion shall be proportioned by a positive displacement pump. Any variable rate emulsion pump, if used, shall be equipped with a means to seal the adjusting unit in its calibrated condition.

The delivery rate of aggregate and emulsion per revolution of the aggregate feeder shall be calibrated at the appropriate gate settings for each mixer-spreader truck used on the project. The calibration shall demonstrate that delivery rates of dry aggregate and emulsion residue are within the recommended percentages stated in the laboratory mix design. The Contractor shall provide written calibration documentation for each application truck which has been performed within the last calendar year. The Contractor shall further provide a short calibration demonstrating gate settings and liquids are delivering job materials within the mix design recommended ranges.

MIXING AND SPREADING EQUIPMENT.

Mixing and spreading equipment shall conform to the provisions in Section 37-2.05, "Mixing and Spreading Equipment" of the State Standard Specifications and these provisions. A minimum of two slurry seal machines shall be on the job and in good operating condition at all times.

The following equipment will be required:

The slurry seal shall be mixed in a self-propelled mixing machine equipped with a continuous flow pugmill, capable of accurately delivering and automatically proportioning the aggregate, emulsified asphalt, mineral filler, water and admixtures to a double shafted, multi-blade pugmill mixer capable of minimum speeds of 200 revolutions per minute. Mix retention time in the pugmill shall be less than three seconds. The mixing machine shall have sufficient storage capacity of aggregate, emulsified asphalt, mineral filler and water to maintain an adequate supply to the proportioning controls and make 15 tons of emulsion mix.

The mixing machine shall be equipped with hydraulic controls for proportioning the material by volume to the mix. Each material control device shall be calibrated, properly marked, pre-set and lockable.

The mixing machine shall be equipped with a water pressure system and nozzle type spray bars to provide a water spray immediately ahead of the spreader box. The mixing machine shall be equipped with an approved fines feeder that provides a uniform, positive, accurately metered, pre-determined amount of the mineral filler at the same time and location that the aggregate is fed.

PLACING.

Placement of slurry seal shall conform to the provisions in Section 37-2.06, "Placing" of the State Standard Specifications and these provisions.

The slurry mix shall be placed over the surface by means of a spreader box equipped with augers to distribute the material uniformly throughout the full width with flexible seals to prevent loss of mixture from the box. The box shall have 6 to 8 foot skids to provide for leveling and filling of uneven depressed areas. The strike off assembly shall be adjustable metal plate to ensure uniform placement on super elevated sections and shoulder slopes. There shall be a walkway across the rear of the screed to facilitate strike-off and texturing adjustments along with material sample taking.

The emulsion mix shall not be placed when the atmospheric temperature is below 60°F and rising, or during unsuitable weather. Do not place slurry seal if either the pavement or air temperature is below 60°F and falling. The expected high temperature must be at least 65°F within 24 hours after placement.

Immediately prior to placing the latex emulsion mix, the surface shall be thoroughly cleaned of all vegetation, loose materials, dirt, mud and all other extraneous materials by a combination of sweeping and blowing. The latex emulsion mixture shall fill all minor cracks, depressions or low areas and leave a uniform surface free from ruts, humps, depressions or irregularities. Any ridges, indentations or other objectionable marks left in the surface shall be eliminated by rolling or other means.

The Engineer shall approve all surface preparation prior to application of the slurry seal.

Utility covers, manholes, and other permanent fixtures shall be protected from coverage by the slurry seal and referenced for prompt location and cleaning following application. The Contractor shall be responsible for locating, removing, and cleaning protection from the above items following the slurry seal operations. The methods of protection and referencing, locating and cleaning shall be submitted by the Contractor and shall be subject to approval by the Engineer. **The Contractor will be assessed a penalty of \$200 for each manhole or valve cover that is slurry sealed over as a result of Contractor's failure to protect these facilities from coverage by the slurry seal.** All penalties will be deducted from payments due the Contractor.

Slurry sealing of driveway aprons, returns, and other incidental work shall be accomplished concurrently with application of the street proper. The joint between the pavement and the PCC gutter shall be sealed with slurry seal and the gutter edge overlapped by approximately two inches. When slurry starts or finishes, a straight line cut-off shall be obtained by laying down a strip of building paper or other approved material. Such paper and any excess slurry shall be removed by the Contractor after application of the slurry. Edge limits of the slurry on both sides of the street shall be maintained in a neat and uniform line.

Construction joints shall be neat in appearance and shall be tapered or feathered to conform to the existing surfacing. All excess material shall be removed from surfaces upon completion of each run.

Areas which cannot be reached with slurry seal machines shall be surfaced using hand squeegees to provide complete and uniform coverage. The area to be hand worked shall be lightly dampened prior to mix placement and the slurry worked immediately. Care shall be exercised to leave no unsightly appearance from hand work. The same type finish as applied by the spreader box shall be required. Hand work shall be completed during machine applying process.

Once the slurry seal has cured and is open to traffic, any excessive raveling of the aggregate from the mixture shall be swept up by the Contractor. The surface shall be maintained and re-swept as required by the Engineer until such time as the raveling ceases or the surface is rejected by the Engineer. Sweeping shall be provided when required within 48 hours notice.

Spread Rates - Ranges for spread rates shall be as follows:

Type II 5.44 - 9.07 kg/m² (12 - 20 lbs/yd²)

The exact rate will be as determined by specific weight of aggregate, the surface demand of the pavement, and the size of the largest particle size of the aggregate. The application rate will produce finished slurry seal as defined elsewhere in these specifications.

At the end of each day's production, the Contractor will provide to the Inspector a report containing the following information:

1. Tons of dry aggregate consumed that day;
2. Tons of asphalt emulsion consumed that day; and
3. Footage covered that day.

This report shall be received no later than 10:00 a.m. of the following day.

PROCEDURE.

The Contractor shall perform the service in a safe, acceptable, workmanlike manner, and in accordance with the requirements of Section 37-2, Slurry Seals, of the State of California Standard Specifications.

1. Personnel shall be experienced, knowledgeable and capable in all aspects of performing the service. The same personnel that start the project shall remain on the project for the life of the contract.
2. The equipment shall be in good repair and serviceable to operate in a reliable and safe manner.
3. Tack Coat - When slurry is being placed over a brick, concrete, or other highly absorbent or polished surface, a 1-part emulsion, 3-part water tack coat of the same asphalt emulsion (if possible) type and grade as specified for the slurry is recommended. This can be applied with an asphalt distributor. The normal application rate is 0.05 to 0.10 gal./sq. yd. of the diluted emulsion.
4. The Contractor shall place slurry seal to the beginning and ending limits of the work as directed by the Engineer.
5. The Contractor shall be responsible for providing the street cleaning, "No Parking" posting, and traffic control.
6. The Contractor shall be responsible for all cleanup of the work areas and staging areas.
7. The Contractor shall be responsible for covering and uncovering all structure covers, such as manholes, valve and monument covers.
8. All streets (full width and gutters) shall be swept by mechanical means no sooner than 5 days and no later than 15 days after slurry placement is complete.

B. Measurement

The quantity of polymer modified slurry seal shall be the total square yardage of slurry seal placed.

C. Measurement and Payment.

The contract price paid per square yard for **Polymer Modified Slurry Seal (Bid Item #6.15)** shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved in the furnishing and placing the slurry mix complete in place, including cleaning the surface and protecting the slurry mix until it has set, all as shown on the plans, as specified in these specifications and as directed by the Engineer.

16.2.17 Guard Rail

A. Description: The Contractor's attention is directed to Section 83-1.01 thru 83-1.02B, "Railings and Barriers," of the State Standard Specifications; and also standard drawings RSP A77L2, A77M1 and A77N1 thru A77N4 of the State Standard Plans, latest revision, for the construction of a Midwest Guardrail System. The Contractor shall diligently control excess material resulting from his operations from encroaching into the adjacent Wildcat Creek. The Contractor shall adhere to the Stormwater Pollution Prevention Plan (SWPPP), Section 10.1.11, for more information.

B. Measurement. Quantities of Guard Rail shall be measured by the linear foot.

C. Payment: Payment for **Guard Rail** shall be by linear foot. This linear foot price bid for **Guard Rail (Bid Item #6.12)** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in preparing the site for the project improvements.

16.2.18 Roadway Striping and Signage

A. Description: The Contractor's attention is directed to Section 56, "Signs," Section 84, "Traffic Stripes and Pavement Markings," and Section 85, "Pavement Markers," of the State Standard Specifications. Traffic signs, traffic stripes, pavement markings and pavement markers shall be installed in accordance with the project plans and the State Standard Specifications.

Materials:

Pavement Delineation-Thermoplastic:

Thermoplastic material shall be TMT-Pathway 'Duraline' hydrocarbon thin mil sprayable thermoplastic traffic marking material (1031TW & 1032TY meets State of California PTH392B) or City approved equivalent. Placement shall be performed as directed by the manufacturer.

Pavement Delineation-Pavement Marker:

Raised and reflective pavement markers shall comply with Section 85 of the Standard Specifications. The specific type to be used shall be consistent with the type generally in use within the local jurisdiction unless directed otherwise by the Engineer.

B. Measurement. The quantity for **Roadway Striping and Signage** will be measured on a lump sum basis.

C. Payment: Payment for **Roadway Striping and Signage** shall be by lump sum. The lump sum price bid for **Roadway Striping and Signage (Bid Item #6.16)** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in preparing the site for the project improvements.

16.3 Landscape

16.3.01 SITE FURNISHINGS AND ACCESSORIES

2"/3" River Rock

A. GENERAL

1. SUMMARY

- 1.1 This Site Furnishings specification shall be used in coordination with the Landscape plans prepared by Gates + Associates, including Sheets L1.1 through L4.0, dated August 4, 2016.
- 1.2 The General Conditions and all other Contract Documents for this project are complementary and applicable to this Section of the Specifications.
- 1.3 Work Included: Furnish all labor, materials, equipment and services necessary to provide and construct, repair, or install the site elements, complete in place, as shown and specified, including, but not limited to:
 - 1.3.01 2"/3" Smooth River Rock

2. SUBMITTALS

- 2.1 Submit shop drawings where noted to the City for approval before installing any manufactured items. Plans shall include dimensions, color, finish, structural design (custom items), and connection details.
- 2.2 Submit catalog cuts, samples and manufacturers literature of all manufactured items in this section to the City for approval before installation.
 - 2.2.01 Provide color samples, brushouts, or charts for all items. Final colors to be selected by City and a sample submitted for approval.

B. PRODUCTS

1. NON-MANUFACTURED ITEMS

- 1.1 2"/3" Smooth River Rock: Smooth River Washed river rock, submit photos of material, source, and color range for City approval prior to delivery to site.

2. MISCELLANEOUS MATERIALS

- 2.1 All other materials for site elements shall be as specified on the plans and these specifications.

C. EXECUTION

1. INSTALLATION

- 1.1 Examination: Verify that conditions are satisfactory for installation of each item of site elements. If unsatisfactory conditions exist, do not begin installation until such conditions have been corrected.

2. GUARANTEE

- 2.1 At completion of project, Contractor shall provide City with written guarantee from each manufacturer identifying the nature of warranty for each product component.
- 2.2 Contractor shall provide City with two (2) bound maintenance manuals identifying each piece of equipment on manufacturer's recommended maintenance program including, but not limited to, daily, weekly, and monthly check lists.

3. MEASUREMENT AND PAYMENT

- 3.1 Payment for this item will be at lump sum. This price shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved in installation of **2"/3" RIVER ROCK (Bid Item #7.01)**, in place, including but not limited to delivery on site as shown on the plans and as specified herein.

16.3.02 IRRIGATION SYSTEM

D. GENERAL

1. SUMMARY

- 1.1 This Irrigation specification shall be used in coordination with the Landscape plans prepared by Gates + Associates, including Sheets L1.1 through L4.0, dated August 4, 2016.
- 1.2 The General and Supplementary Conditions and General Requirements apply to the work herein specified.

2. DESCRIPTION

- 2.1 Contractor shall furnish all labor, tools, equipment, product, materials and transportation and perform all operations necessary to properly execute and complete all work in accordance with the Drawings and these Specifications. The intent is to accomplish the work of installing an irrigation system, which will operate in an optimum manner. This intention is to be met foregoing any deficiency in setting a complete detailed description of the work to be done.
- 2.2 Related Work Specified Elsewhere:
 - 2.2.01 Section 10.2.03: Earthwork and Site Grading
 - 2.2.02 Section 10.3.03: Landscape Planting

3. QUALITY ASSURANCE

- 3.1 Reference Standards:
 - 3.1.01 ASTM: American Society for Testing and Materials
 - a D1785: Standard Specification for polyvinyl chloride (PVC) plastic pipe, Class 200, Class 315.
 - b D2446: Standard Specification for polyvinyl chloride (PVC) plastic pipe fittings, Schedule 40 and Schedule 80.
 - 3.1.02 NSF: National Sanitation Foundation
- 3.2 Drawings:
 - 3.2.01 For purposes of clarity and legibility, drawings are essentially diagrammatic to the extent that many offsets, bend, unions, special fittings, and exact locations of items are not indicated, unless specifically dimensioned.
 - 3.2.02 Exact routing of piping, etc., shall be governed by structural conditions, obstructions. Contractor shall make use of data in Contract Documents.
 - 3.2.03 The contractor shall not willfully install the irrigation system as shown on the drawings when it is obvious in the field that unknown obstructions, grade difference or discrepancies in area dimensions exist that might not have been considered in engineering. Such obstructions or differences shall be brought to the attention of the irrigation consultant. In the event this notification is not performed, the contractor shall assume full responsibility for any revision necessary.

4. VISIT TO THE SITE

- 4.1 The contractor shall visit the construction site and shall take all measurements and obtain any other information as may be necessary for a complete and conclusive bid.

5. SUBMITTALS

- 5.1 Substitutions: Prior to installation, any proposed substitution from the plans or these specifications is to be forwarded, in writing, to the irrigation consultant for approval.
- 5.2 Record Drawings: Provide record drawings as follows:
 - 5.2.01 The contractor shall maintain in good order in the field office one complete set of prints of all sprinkler drawings, which form a part of this contract. In the event any

work is not installed as indicated on the drawings, such work shall be indicated and dimensioned accurately on record drawings as changes occur. Dimension from two permanent points of reference, building corner, sidewalk, road intersections, etc., the location of the following items.

- a Connection to existing water lines
- b Connection of existing electrical power
- c Routing of pressure lines (dimension max. 100 feet lone along routing)
- d Electrical control valves
- e Routing of control wires
- f Quick-coupling valves
- g Underground stub-outs
- h Other related equipment as directed by the irrigation consultant

5.2.02 Upon completion of the work, obtain reproducible mylar from the landscape architect and neatly correct the plans (to be done by a competent draftsman) to show the as-built conditions. After the as-builts are reviewed and approved by the irrigation consultant, obtain reduced copies of "as-built" mylar (8-1/2" x 11" sheets or to the smallest readable size), and laminate with weather proofing coating.

5.3 Operation and Maintenance Manuals:

5.3.01 Prior to the final inspection of the irrigation system, furnish two (2) individually bound Service Manuals to the owner. The manuals shall contain the following:

- a Index sheet indicating the contractor's name, address, and phone number.
- b A copy of the completed guarantee-following the form in these specifications.
- c Certificate of insurance verifying coverage for completed operations.
- d List of equipment with names, addresses and telephone numbers of all local manufacturers' representatives.
- e Copies of equipment warranties and certificates.
- f Complete operating and maintenance instructions of all equipment including exploded drawings and spare parts list.

5.3.02 Provide instruction in operation of system to owner's personnel.

5.4 Hardware Items:

5.4.01 Two (2) sets of matching Q.C.V. keys and hose swivels.

5.4.02 Two (2) keys to each controller box.

5.4.03 Two (2) sets of any special tool required for the maintenance of each type of component used in the sprinkler system.

6. PROJECT COORDINATION

6.1 Sequencing and Scheduling: Coordinate irrigation installation work with the installation of other site improvements, including utility installation work and landscape installation.

6.2 Environmental Conditions: Site work such as trenching and backfilling shall not be performed during wet, muddy or frozen conditions.

6.3 Rules and Regulations: All work and materials shall be in full accordance with the latest rules and regulations of the National Electric Code; the Uniform Plumbing Code and other

applicable state or local laws or regulations. Nothing in these drawings or specifications is to be construed to permit work not conforming to these codes.

6.3.01 The contractor shall furnish any additional material and labor required to comply with these rules and regulations, though the work is not mentioned in these particular specifications or shown on the drawings.

6.3.02 When the specifications call for materials or construction of a better quality or larger size than required by the above mentioned rules and regulations, the provision of the specifications shall take precedence over the requirements of the said rules and regulations.

6.4 Safety:

6.4.01 The contractor shall erect and maintain barricades, guards, warning signs, and lights as required for the protection of the public and workmen.

6.4.02 All work shall be performed in a safe manner. All regulations, all OSHA requirements and other authoritative agencies shall be followed.

6.4.03 Prior to commencement of work, locate all underground utilities so that proper precautions may be taken not to damage such improvements.

6.5 Maintaining Traffic: It is the responsibility of the contractor to ensure adequate protection and controls for pedestrian and vehicular traffic in the vicinity of the project areas. The contractor shall provide all signs, barricades, flagmen, etc., necessary to meet all traffic requirements for this project at his own expense.

6.6 Permits and Fees: The contractor shall obtain all permits and pay all required fees to any governmental agency having jurisdiction over the work and arrange for inspections specified by local ordinances during the course of construction as necessary.

E. PRODUCTS

1. PRODUCT DELIVERY, STORAGE AND HANDLING

1.1 Handling of pipe and fittings: The contractor is cautioned to exercise care in handling, loading, unloading, and storing of pipe and fittings. Cracks can occur from sudden impact. Protect all plastic products from excessive exposure to sunlight. Any section of pipe that has been dented or damaged shall be removed from the site and, if installed, shall be replaced with new undamaged piping.

2. MATERIALS

2.1 PVC Pressure main line piping and fittings:

2.1.01 Pressure main line piping: 1120-Schedule 40 PVC plastic pipe. Fittings shall be Schedule 40 PVC solvent weld.

2.1.02 Pipe shall be made from NSF approved, Type 1, Grade 1 PVC compound conforming ASTM D1784. All pipe shall meet requirements set forth in ASTM D2441 with an appropriate standard dimension ratio.

2.1.03 All PVC pipe shall bear the following markings:

- a Manufacturer's name
- b Nominal pipe size

- c Schedule or class
- d Pressure rating in PSI
- e NSF
- f Date of extrusion

2.1.04 All fittings shall bear the manufacturer's name or trademark, material designation, size, applicable I.P.D. schedule and NSF seal of approval.

2.2 PVC non-pressure lateral line piping and fittings:

2.2.01 Non-pressure buried lateral line piping shall be PVC 1120 Class 200 with Schedule 40 PVC solvent-weld fittings.

2.2.02 Pipe shall be made from NSF approved, Type 1, Grade 1 PVC compound conforming to ASTM D1784. All pipe shall meet requirements set forth in ASTM D2441 with an appropriate standard dimension ratio.

2.2.03 Except as heretofore specified, all requirements for non-pressure lateral line pipe and fittings shall be the same as for solvent-weld pressure main line pipe and fittings as specified.

2.3 Sleeving and Conduit: Material shall be polyvinyl chloride (PVC) Schedule 40, type 1120/1220 with solvent weld.

2.4 Galvanized steel pipe shall be Schedule 40; ASTM (A120) and steel fittings shall be Schedule 40 hot dipped, double banded malleable steel.

2.5 PVC Schedule 80 nipples shall be used with molded threads. Machined threaded nipples will not be allowed.

2.6 Connections between supply line and R.C.V.'s shall be as specified or detailed on the drawings.

2.7 Riser assemblies shall be as specified or detailed on the drawings.

2.8 Controller, valves, backflow preventer, bubblers and drip line shall be specified and/or detailed on the drawings.

2.9 Control wires shall be UL approved copper single strand type UF direct burial 14 gauge red in color. Common wires shall be UL approved copper single strand type UF direct burial 12 gauge white in color. Spare control wires shall be UL approved copper single strand type UF direct burial 14 gauge blue in color.

2.10 Miscellaneous installation materials:

2.10.01 Solvent weld joints shall be of make and type approved by manufacturer (s) of pipe and fittings. Solvent cement shall be a proper consistency throughout use. Mixing thinner with solvent will not be allowed.

2.10.02 Pipe joint compound shall be non-hardening, non- toxic materials designed specifically for use on threaded connections in water carrying pipe.

2.10.03 Wire connections shall be 3M #3750 Scotch Lok Seal Packs, Spears DS-400 seal packs or approved equal.

2.11 Control or Valve Boxes:

- 2.11.01 Provide 14 x 19 inch plastic rectangular control valve box with bolt down plastic lid for each electrical control valve. Hot stamp or permanently engrave irrigation controller station number onto valve box lid.
- 2.11.02 For gate valves and quick coupling valves: Use 9-inch plastic round box. Add extensions for gate valves as required. Hot stamp or permanently engrave "GV" for gate valve and "QCV" for quick coupler valves onto valve box lid.

F. EXECUTION

1. GENERAL

- 1.1 Irrigation system shall be installed in accordance with all applicable local and state codes and ordinances by a licensed landscape contractor.
- 1.2 Follow manufacturer's direction except as shown or specified.

2. INSPECTION OF SITE CONDITIONS

- 2.1 All scaled dimensions are approximate. The contractor shall check and verify all size dimensions prior to proceeding with work under this Section.
- 2.2 Exercise extreme care in excavating and working near existing utilities. Contractor shall be responsible for damages to utilities, which are caused by his operations or neglect. Check existing utilities drawings for existing utility locations.
- 2.3 Coordinate installation of irrigation materials, including pipe, so there shall be no interference with utilities or other construction or difficulty in planting trees, shrubs, and groundcover.
- 2.4 Avoid trenching within drip line of trees where possible. When not possible, all damaged roots over 1-1/2" in diameter shall be cut leaving clean face, seal cuts with tree seal, then immediately install pipe, wire, etc., refill trench and soak.
- 2.5 The contractor shall carefully check all grades to satisfy himself that he may safely proceed before starting work on the irrigation installation.
- 2.6 Coordinate the work of this Section with that of other Sections for the location of pipe sleeves through walls, paving, etc.
- 2.7 The landscape contractor shall verify water pressure and available gallonage prior to construction. If deficiencies are noted that will hinder the system's performance, notify the irrigation consultant for directions to correct deficiencies.
- 2.8 The design is diagrammatic. All piping, valves, etc., shown within paved areas is design clarification only. Install piping, valves, etc., in planting areas.

3. PREPARATION - LAYOUT OF WORK

- 3.1 Prior to installation, stake out all pressure supply lines and notify irrigation consultant for reviewing layout when area or grade differences or obstructions are not as indicated on the plans.

4. INSTALLATION

- 4.1 Trenching:
 - 4.1.01 Dig trench straight and support pipe continuously on bottom of trench. Lay pipe to an even grade. Trenching excavation shall follow layout shown on drawings.
 - 4.1.02 Provide for a minimum of 18 inches cover for all pressure supply lines.
 - 4.1.03 Provide for a minimum cover of 12 inches for all non-pressure lines to spray heads.
 - 4.1.04 Provide for a minimum cover of 18 inches for all control wiring.
 - 4.1.05 Provide a minimum cover of 24 inches over pipe and wiring under asphalt pavement.
- 4.2 Backfilling:
 - 4.2.01 Do not backfill trenches until all required tests are performed. Carefully backfill trenches with specified excavated materials for backfilling, consisting of earth, loam, sandy clay, sand, or other acceptable materials, free from large clods of earth or stones. Backfill shall be mechanically compacted in landscaped areas to a dry density equal to adjacent undisturbed soil in planting areas. Backfill shall conform to adjacent grades without dips, sunken areas, humps or other surface irregularities.
 - 4.2.02 Surround pipe with sand in rocky terrain with a 4" bed and 4" cover.
 - 4.2.03 Backfill in proposed asphalt paved areas shall have sand covering pipe with a 6" minimum depth.
- 4.3 Pipe and Fitting Installation and Connections:
 - 4.3.01 Provide each bubbler and drip line assembly with its own outlet.
 - 4.3.02 Install all assemblies specified herein in accordance with details shown on drawings.
 - 4.3.03 Thoroughly clean PVC pipe and fittings of dirt, dust and moisture before installation. Installation and solvent welding methods shall be as recommended by the pipe and fitting manufacturer.
 - 4.3.04 On PVC to metal connections, the contractor shall work the metal connections first. Use Teflon tape, or equal, on all threaded PVC to PVC, and on all treaded PVC to metal joints.
 - 4.3.05 Install piping under existing walks by boring whenever possible. Where any cutting or breaking of sidewalks and/or concrete is necessary, it shall be done and replaced at no increase in contract sum. Obtain permission to cut or break sidewalks and/or concrete from the architect before proceeding. No hydraulic driving will be permitted under concrete paving.
- 4.4 Line clearance:
 - 4.4.01 All lines shall have a minimum clearance of 6 inches from each other and from lines of other trades. Parallel lines shall not be installed directly over one another.

- 4.5 Automatic Controller:
 - 4.5.01 Locate controller in general location shown with exact placement to be determined at job site by the irrigation consultant or Owner's Representative.
 - 4.5.02 Connect control lines to controller in sequential arrangement according to assigned identification number on plans.
 - 4.5.03 Controller shall be properly grounded per Article 250 of the National Electric Code and conform to local regulations.
- 4.6 Remote Control Valves:
 - 4.6.01 Install where shown on drawings. When grouped together, allow at least 12 inches between valves. Install each remote control valve in a separate valve box. Locate boxes in groundcover areas whenever possible, and a minimum of 12 inches from paving or curbs.
- 4.7 Control Wiring:
 - 4.7.01 Make connections between existing automatic controls and electrical control valves with direct burial copper wire. Common wires shall be white. Install in accordance with valve manufacturer's specifications and wire charts.
 - 4.7.02 Wiring shall occupy the same trench and shall be installed along the same route as pressure supply or lateral lines wherever possible. When not possible, house wiring in PVC conduit as described in "Sleeving and Conduit" section.
 - 4.7.03 Where more than one wire is placed in a trench the wiring shall be taped together at intervals of 10 feet.
 - 4.7.04 Provide 2-foot expansion coil at each wire connection and at least every 100 feet of wire length on runs more than 100 feet in length. Form expansion coils by wrapping at least five turns of wire around a 1-inch diameter pipe, then withdrawing the pipe.
 - 4.7.05 Splicing on runs shall be placed in junction boxes. Indicate all splices on the As-Built Plan.
 - 4.7.06 All below grade wire connections shall be made by using heat shrink tubing with interwall sealer following manufacturers recommended procedures.
 - 4.7.07 Install separate common wire for each controller. Install extra control wires of a different color through all valve boxes to controller as indicated in irrigation notes on plans.
- 4.8 Sleeving and Conduit:
 - 4.8.01 Control wiring passing under proposed concrete and paving shall pass through Schedule 40 PVC conduit-size as required.
 - 4.8.02 Sleeving and conduit shall extend six (6") beyond farthest edge of pavement or curb.
 - 4.8.03 Provide removable non-decaying plug at ends of sleeves and conduits to prevent entrance of earth.
- 4.9 Flushing of System:
 - 4.9.01 After all new pipelines and risers are in place and connected, all necessary diversion work has been completed, and prior to installation of bubblers and drip lines, open control valves and use a full head of water to flush out the system.
 - 4.9.02 Install bubblers and drip line only after flushing of system has been accomplished.
- 4.10 Bubblers:

- 4.10.01 Install bubblers and drip line as shown and detailed on Drawings.
- 4.10.02 Spacing of drip line shall not exceed maximum shown on Drawings. In no case shall spacing exceed maximum recommended by manufacturer.

5. FIELD QUALITY CONTROL

5.1 Adjustment of the System:

- 5.1.01 If it is determined that adjustments in the irrigation equipment will provide proper and more adequate coverage, the contractor shall make such adjustments prior to planting.

5.2 Testing of Irrigation System:

- 5.2.01 Notify the irrigation consultant at least three (3) days in advance of testing.
- 5.2.02 Test to be done at no extra cost to the Owner.
- 5.2.03 Center load piping with sufficient amount of backfill to prevent arching or slipping under pressure. No fitting shall be covered.
- 5.2.04 Testing of pressure main lines shall occur prior to installation of electrical control valves.
- 5.2.05 Pressure Test for Solvent Weld Pipes:
 - a Apply test for solvent welded plastic pipe after joints have cured at least 24 hours or more if manufacturer of solvent cement requires.
 - b Test supply lines per ASTM-F690 as follows: (1) add water slowly to pipe to avoid water hammer damage, (2) bleed system to insure all air is out of pipes, (3) pressurize system to 125 psi for two (2) hours. Visually inspect for leaks while system is holding pressure constant. Note – use hydraulic pump or other safe method – do not use air compressor.
 - c Test sprinkler lines at line pressure and visually inspect for leaks.
- 5.2.06 When the irrigation system is completed, perform a coverage test to determine if the water coverage for planting areas is complete and adequate. Furnish all materials and perform all work required to correct any inadequacies of coverage due to deviation from drawings. This test shall be accomplished before any plant material is planted.
- 5.2.07 Upon completion of each phase of work, test and adjust entire system to meet site requirements.

6. CLEAN-UP

- 6.1 Clean-up shall be made as each portion of work progresses. Refuse and excess dirt shall be removed from the site, all walks and paving shall be broomed or washed down, and any damage sustained on the work of others shall be repaired to original conditions.

7. FINAL REVIEW PRIOR TO ACCEPTANCE

- 7.1 Operate each system in its entirety at time of final review. Any items deemed not acceptable shall be reworked to the satisfaction of the irrigation consultant.
- 7.2 Final review shall take place after submission of all specified lists, record drawings, and manuals.

8. INSPECTIONS

- 8.1 The contractor shall be subject to inspections at any and all times by authorized representatives of the Owner.

9. MAINTENANCE

- 9.1 The contractor is to make all repairs and maintain the entire irrigation system from the time of installation through the landscape maintenance period.

10. WARRANTY

- 10.1 The contractor shall repair or replace any irrigation found to be defective in material or workmanship within the entire irrigation system from the time of installation through the warranty period, as outlined in the Guarantee form provided in these specifications.

11. MEASUREMENT AND PAYMENT

- 11.1 **Irrigation System (Bid Item #7.2)**, including controller, back flow, flow sensor, laterals and mainline, shall be paid for at the contract lump sum price. Prices shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all the work involved as shown on the plans and described in this Section, and no additional allowance will be made therefore.

GUARANTEE FOR IRRIGATION SYSTEM

WE HEREBY GUARANTEE THAT THE IRRIGATION SYSTEM WE HAVE FURNISHED AND INSTALLED IS FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP, AND THE WORK HAS BEEN COMPLETED IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS. WE AGREE TO REPAIR OR REPLACE ANY DEFECTS IN MATERIAL OR WORKMANSHIP, ANY SETTLING OF BACKFILLED TRENCHES, WHICH MAY DEVELOP DURING THE PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE AND ALSO TO REPAIR OR REPLACE ANY DAMAGE CAUSED BY ANY DEFECTS IN THE IRRIGATION SYSTEM OR RESULTING FROM THE REPAIRING OR REPLACING OF SUCH DEFECTS AT NO ADDITIONAL COST TO THE OWNER. ORDINARY WEAR AND TEAR, UNUSUAL ABUSE OR NEGLECT ARE EXCEPTED. WE SHALL MAKE SUCH REPAIRS OR REPLACEMENTS, INCLUDING COMPLETE RESTORATION OF ALL DAMAGED PLANTING, PAVING, OR OTHER IMPROVEMENTS OF ANY KIND, WITHIN A REASONABLE TIME, AS DETERMINED BY THE OWNER, AFTER RECEIPT OF WRITTEN NOTICE. IN THE EVENT OF OUR FAILURE TO MAKE SUCH REPAIRS OR REPLACEMENTS WITHIN A REASONABLE TIME AFTER RECEIPT OF WRITTEN NOTICE FROM THE OWNER, WE AUTHORIZE THE OWNER TO PROCEED TO HAVE SAID REPAIRS OR REPLACEMENTS MADE AT OUR EXPENSE AND WE WILL PAY THE COSTS AND CHARGES THEREFORE UPON DEMAND.

PROJECT:

LOCATION:

CONTRACTOR:

LICENSE NO:

ADDRESS:

TELEPHONE:

GUARANTEE TO:

DATE OF ACCEPTANCE:

AUTHORIZED REPRESENTATIVE:

16.3.03 LANDSCAPE PLANTING

G. GENERAL

1. DESCRIPTION

- 1.1 This Landscape Planting specification shall be used in coordination with the Landscape plans prepared by Gates + Associates, including Sheets L1.1 through L4.0, dated August 4, 2016.
- 1.2 Work to be Included:
 - 1.2.01 Furnish all labor, materials, equipment, rentals, facilities, transportation, incidentals, excavations, submittals and services for installation of plant material and related work as shown on the drawings and/or specified herein including all topsoil, compost, headers, fertilizer, organic materials, plant materials, plant labels, tree stakes, mulch, maintenance, warranties and all other incidentals to planting work and as necessary for a complete and full installation of Landscape Planting.
- 1.3 Related Work:
 - 1.3.01 Section 10.2.07 -- Drainage: Contractor shall fully acquaint himself with the existing conditions particularly in reference to underground piping. Any damage caused by contractor to work of other trades shall be repaired by him at no cost to the Owner.
 - 1.3.02 Section 10.2.08 -- Sanitary Sewer: Contractor shall fully acquaint himself with the existing conditions particularly in reference to underground piping. Any damage caused by contractor to work of other trades shall be repaired by him at no cost to the Owner.

- 1.3.03 Section 10.2.03 – Earthwork and Grading: Close coordination shall be maintained with those Contractors performing rough grade operations and installing utilities and pavement to insure proper timing of the work.
- 1.3.04 Section 10.1.08 – Clearing, Grubbing and Removals
- 1.3.05 Section 10.3.02 – Irrigation: Irrigation system shall be installed and operative before beginning planting operation.

2. RELATED DOCUMENTS

- 2.1 The General and Supplementary Conditions and General Requirements apply to the work herein specified.
- 2.2 References:
 - 2.2.01 Nomenclature: "Western Garden Book," Sunset Publishing Co., Menlo Park, CA, 2001 edition or current edition.
 - 2.2.02 Plant Material Standards: "American Standard for Nursery Stock", American Nursery & Landscape Association, 1000 Vermont Avenue, NW Suite 300, Washington, DC, or current edition.
 - 2.2.03 Staking and guying procedures: "Staking Landscape Trees", University of California Extension, Publication #2576, or current publication.
 - 2.2.04 Pruning procedures: "Tree Pruning Guidelines", International Society of Arboriculture, Savoy, IL, 1995 or current edition, conforms to ANSI-A300-1995 tree pruning specifications and guidelines.
 - 2.2.05 Manufacturer's recommendations.

3. REGULATORY REQUIREMENTS

- 3.1 Comply with Federal and State laws requiring inspection for plant diseases and infestations.
- 3.2 Conform to all federal, state, county, district, local codes and requirements for installation, preparation and maintenance as referenced herein and as applicable.
- 3.3 Certificates of inspection required by law for transportation shall accompany invoice for each shipment of plants. Submit inspection certificates with each shipment of plants and deliver certificates to the Owner's Representative after acceptance of material.
- 3.4 Inspection by Federal or State Governments at place of growth does not preclude rejection of plants at project site.

4. PERFORMANCE REQUIREMENTS

- 4.1 Supervision: Assign a full-time employee to the job as Foreman for the duration of the Contract with a minimum of four (4) years experience in landscape installation. Foreman to be present during the entire installation. Notify Owner's Representative of all changes in supervision.

5. QUALITY ASSURANCE

5.1 Personnel:

5.1.01 All planting and turf work shall be performed by competent and efficient personnel familiar with planting and turf procedures under the supervision of a Qualified Foreman.

5.1.02 Installing contractor shall have successfully completed within the last 3 years at least 3 planting applications similar in type and size to that of this project.

5.2 Plant Material Standards:

5.2.01 Plant Certification: All plants must meet specifications of Federal, State, and County laws requiring inspection for plant disease and insect infestations. Inspection certifications required by law shall accompany each shipment, invoice and order for stock.

5.2.02 Codes and Standards: Nursery stock shall meet the standards of the current edition of the "American Standard for Nursery Stock", "Agricultural Code of California" and the "Regulations of the Director of Agriculture Pertaining to Nursery Stock". They shall be true to type and name in accordance with "Standardized Plant Names", Second Edition.

5.2.03 Use only nursery-grown stock that is free from insect pests and diseases. Any required clearances shall be obtained prior to shipment of plant material.

5.2.04 Plants shall be subject to inspection and approval of the Landscape Architect at place of growth or upon delivery for conformity to specifications. Such approval shall not impair the right of inspection and rejection during progress of the work. Wherever the terms "approve", "approval" or "approved" are used herein they mean approval of the Landscape Architect in writing.

5.2.05 Contract Grown Plants: Contract grown plant material does not relieve the landscape contractor of providing materials which do not match or exceed standard nursery stock. Plants which do not meet standards shall be rejected and the Contractor shall provide nursery grown stock as required at no additional cost to the Owner or contract.

6. SUBSTITUTIONS

6.1 Substitutions: Substitutions of plant materials will not be permitted unless authorized in writing by Owner's Representative. If proof is submitted that any plant specified is not obtainable, a proposal will be considered for use of the nearest equivalent size or variety with corresponding adjustment of Contract price. Such proof shall be substantiated and submitted in writing to Owner's Representative.

6.2 The Contractor shall submit a list of un-available plants per project plant list and a list of all nurseries and plant brokers contacted a maximum of **15** days after Notice to Proceed.

6.3 The Landscape Architect reserves the right to require the Contractor to replace at the Contractor's cost any plants which the Contractor has installed without the Landscape Architect's approval.

7. Proof of plant availability

7.1 These provisions shall not relieve Contractor of the responsibility of obtaining specified materials in advance if special growing conditions or other arrangements must be made

in order to supply specified materials. Contractor shall secure all material and provide proof of such within **30** days of Notice to Proceed in order to guarantee plant availability at time of planting. .

- 7.2 Payment for the procurement of plant material, including possible incidentals such as storage and maintenance at nursery after purchase or contract growing plants, is the full responsibility of the Contractor.

8. SUBMITTALS

All submittal data shall be forwarded in a single package to the Owner's Representative within 15 days of award of contract.

- 8.1 Furnish 4 copies of manufacturers' literature for the following items:

8.1.01 Plant Supplier's List:

- a Submit documentation to the Owner's Representative within **30** days of Notice to Proceed that all plants listed on the plans have been ordered. Substitution of size or species due to unavailability must be requested in writing within **15** days of Notice to Proceed.

8.1.02 Fertilizer

8.1.03 Fertilizer Tablets

8.1.04 Filter Fabric

8.1.05 Iron and Sulfate Amendment

8.1.06 Organic Amendment

8.1.07 Pre-Emergence Weed Killer

8.1.08 Root Control Barriers

8.1.09 Retention/Bioswale Soil Mix

8.1.10 Top Mulch

8.1.11 Tree Support Poles

8.1.12 Tree Ties

- 8.2 Soil Testing: Provide soil analysis from an approved testing laboratory. Soil analysis using Saturate Media Analysis will not be allowed and rejected outright for soil analysis. Soil analysis shall include pH, salinity, sodium hazard, boron hazard, lime content, organic matter, soil texture and available nutrient levels. Submit test results, analysis, and recommendations for:

8.2.01 Existing site topsoil (1 sample per acre)

Top Soil Analysis: After approval of rough grading and topsoil placement, obtain two representative samples of topsoil taken from approved site locations and submit to approved testing agency for "agricultural suitability" analysis report, including evaluation of physical and chemical properties of soil and recommendations for adding amendment and fertilizers to the soil. Upon approval of the Laboratory's report by the Owner's Representative, the report recommendations become a part of the Specifications. Adjust the quantities of soil amendment, fertilizer and other additives to conform to the report.

8.2.02 Import top soil

Imported Top Soil Analysis: Submit sample to approved testing agency for "agricultural suitability" analysis report, including evaluation of physical and chemical properties of soil and recommendations for adding amendment and fertilizers to the soil. Upon approval of the Laboratory's report by the Owner's Representative, the soil and report recommendations become a part of the Specifications. Adjust the quantities of soil, soil amendment, fertilizer and other additives to conform to the report.

8.2.03 Imported Soil Fill

Imported Soil Fill shall fall within acceptable tolerances for plant fertility and suitability and shall have a pH value between 6 and 7.5. Imported soil fill that exceed acceptable levels for Macro and Micro – Nutrients for plants as indicated in soil laboratory testing will be rejected and shall not be used for project.

8.2.04 Retention/bioswale Soil Mix.

8.2.05 Organic Amendment.

- 8.3 Submit one (1) quart sample each of mulch, bio-retention mix, import top soil, imported soil fill and organic amendment.
- 8.4 Certificates of Compliance, receipts, and /or delivery tickets for the following:
 - 8.4.01 Soil amendment, chemical and physical properties. Do not deliver amendment to the site without approval of submittals by Owner's Representative.
 - 8.4.02 Retention/Bioswale Soil Mix. Do not deliver soil mix to the site without approval of submittals by Owner's Representative.
 - 8.4.03 Quantity of soil amendment delivered to site for incorporation into soil.
 - 8.4.04 All other soil amendments, soils, compost, and mulch delivered to the site.

9. ADDITIONAL SAMPLES AND TESTS

- 9.1 Owner's Representative reserves the right to take and analyze samples of materials for conformity to specifications at any time. Contractor shall furnish samples upon request by Owner's Representative. Rejected materials shall be immediately removed from the site at Contractor's expense. Cost of testing of materials not meeting specifications shall be paid by Contractor.

10. SELECTION AND TAGGING OF PLANT MATERIAL

- 10.1 Contractor shall select and tag all plant material within **30** days of Notice to Proceed. Plant material which is not available, or not possible to contract grow shall be noted to the Landscape Architect within **15** days of Notice to Proceed so substitutions may be selected. Contractor shall source material from out of state or thru a plant broker if not locally available. Contractor shall submit lists of all nurseries and plant brokers contacted for availability.
- 10.2 Plants shall be subject to inspection and approval by Owner's Representative at place of growth if the Owner's Representative so chooses, and upon delivery for conformity to specifications. Such approval shall not impair the right of inspection and rejection during progress of the work. Submit written request for inspection of plant material at place of growth to Owner's Representative. Written request shall state the place of growth and

quantity of plants to be inspected. Owner's Representative reserves right to refuse inspection at this time if, in his judgment, a sufficient quantity of plants is not available for inspection.

11. PROJECT SITE CONDITIONS

- 11.1 Site Visit: At beginning of work, visit and walk the site with the Owner's Representative to clarify scope of work and understand existing project site conditions. Identify location of utilities and other improvements. Notify Owner's Representative of conflicts prior to start of work for resolution.
- 11.2 Access: Inspect project site and become familiar with the accessing requirements and restrictions. At time of submitting bid, provide written notice of any conditions that would prevent installation of the specified plant material.

12. JOB CONDITIONS

- 12.1 Delivery:
 - 12.1.01 Deliver manufactured materials in original containers with brand and maker's name marked thereon. Materials in broken containers or showing evidence of damage will be rejected and must be immediately removed from the site. Odorous materials shall not be brought to the site until they are to be used. Deliver quantities necessary to complete the work shown on the Drawings. Any discrepancy in the quantities given on the plans shall not entitle Contractor to additional remuneration.
 - 12.1.02 Deliver Bulk materials to the job site and store to deter mixing with other bulk materials, saturation by rainwater, contamination and/or contact with other deleterious substances or materials.
 - 12.1.03 Deliver plants with identification labels.
 - a Labels should state correct name and size.
 - b Use durable, water-proof labels with water resistant ink that will remain legible for at least 60 days.
 - 12.1.04 Protect plant materials during transport to prevent damage to rootball or desiccation of leaves.
 - 12.1.05 Remove unacceptable plant materials immediately from job site.
 - 12.1.06 Contractor shall endeavor to coordinate delivery with installation schedule so that plant material is installed on the same day.
- 12.2 Storage:
 - 12.2.01 Plants: Maintain plant material in healthy growing condition at all times. Protect plants from drying winds, vandals and animals. Keep plants that cannot be installed immediately in the shade, if shade plants and in the sun, if sun plants. Water and feed as necessary. Owner's Representative reserves the right to reject plants that decline in quality after delivery to site.
- 12.3 Under no circumstances shall any work be performed if the temperature exceeds 90 degrees or is below 40 degrees. No planting shall be done with the soil saturated with water.

H. PRODUCTS

1. SOIL AMENDMENTS

- 1.1 The following organic amendments, soil amendments, and fertilizer rates and quantities are to be used for bid basis only. Contractor shall arrange and pay for testing by an accredited soils laboratory of existing site soil after rough grading operations are complete, and shall amend the soils according to said laboratory's recommendations. The soils recommendations shall be considered a part of this specification.
- 1.2 Planting Soil (Topsoil)
 - 1.2.01 Planting soil is defined as on-site surface soil. Satisfactory planting soil shall be free of subsoil, heavy or stiff clay, lumps, stones, and other objects over 4 inches in diameter, and without weeds, roots, and other objectionable material.
 - 1.2.02 Remove heavy growths of grass from areas before stripping.
 - 1.2.03 Strip planting soil to whatever depths encountered a minimum of 8 inches or depth of visible topsoil, a maximum of 12 inches, in a manner to prevent intermingling with the underlying subsoil or other objectionable material. Topsoil stripping is limited to area indicated on drawings.
 - 1.2.04 Stockpile topsoil in storage piles in areas shown, or where designated by Owner's Representative. Construct storage piles to freely drain surface water. Cover storage piles if required to prevent windblown dust.
 - 1.2.05 If herbicide contamination is suspected then a radish/ryegrass growth trial must be performed. Consult with Owner's Representative prior to decision to test.
- 1.3 Obtain topsoil from naturally well- drained sites where topsoil occurs in a depth of not less than 4 inches; do not obtain from bogs or marshes. Topsoil from the project stockpile that meets the requirements is acceptable.
- 1.4 Imported Topsoil: Topsoil shall be tested by an approved soils laboratory for compatibility with existing on-site soils and fertility. Contractor shall submit soil laboratory's analysis and amendment recommendations. Imported topsoil shall be subject to inspection by Owner's Representative at the project site. Remove rejected topsoil immediately at Contractor's expense. The imported topsoil shall be blended on site with the following ratio:

1 part of compost blended with 2 parts of imported soil.

- 1.5 Imported Topsoil:
 - 1.5.01 Import topsoil as needed to complete the job with the following properties:
 - a Fertile, friable, natural, productive, even textured soil containing a normal amount of humus, capable of sustaining healthy plant life, free of subsoil, heavy or stiff clay, rocks, gravel, brush, roots, weeds, noxious seeds, sticks, trash or other harmful substances, with no nematodes or other noxious animal life or toxic substances. Obtain soil from well-drained, arable land, where no noxious weeds such as Morning Glory, Sorrel, or Bermuda Grass are growing. "Sandy Loam" or "Loam" as classified in accordance with USDA Standards.
 - b Imported planting soil pH value to be between 6.0 and 7.5 with boron concentration of the saturation extract of less than 1 ppm, salinity of the

saturation extract at 25 degrees C. of less than 4.0 millimoles, and a sodium absorption rate (SAR) of less than 8.

- c Silt and clay content of imported planting soil is not to exceed that of the existing soil it is to be placed over.
- d Do not deliver topsoil to the site until Owner's Representative has reviewed soils report and has approved submittals by Owner's Representative.

1.6 Imported Soil Fill

1.6.01 Import soil fill as needed to complete the job with the following properties:

- a Imported planting soil pH value to be between 6.0 and 7.5 with boron concentration of the saturation extract of less than 1 ppm, salinity of the saturation extract at 25 degrees C. of less than 4.0 millimoles, and a sodium absorption rate (SAR) of less than 8.
- b Silt and clay content of imported planting soil is not to exceed that of the existing soil it is to be placed over.
- c Do not deliver topsoil to the site until Owner's Representative has reviewed soils report and has approved submittals by Owner's Representative.

1.7 Organic Amendment:

1.7.01 For bidding purposes, assume Soil Amender Compost, available from Organic Solutions, ph. 707-751-0466 or approved equal. Application rate per 1000 square feet:

6 cubic yards Organic Compost

1.7.02 Organic Amendment: Feedstock shall be no longer recognizable. Compost amendment shall contain fairly uniform particle size, no weed sprouts. Submit a nutrient analysis and testing data from a third party or soil lab, such as the STA Seal of Testing Assurance by the US Composting Council; or OMRI, Organic Materials Review Institute. Organic Compost shall meet the following criteria:

- a Particle size: 100% passing a 1" screen or smaller.
- b Salt Concentration: Must be reported; may vary but < 4.0 mmhos/cm preferred. Soil should be test. <2.5 mmhos/cm preferred for soil/compost blend.
- c Feedstock Materials shall be specified and include at one or more of the following: landscape/yard trimmings, grass clippings, food scraps, and agricultural crop residues.
- d Nutrient Content: provide analysis detailing nutrient content including N-P-K; Ca; Mg; S; and Bo. Nitrogen content 1% or above preferred.
- e Trace Contaminants Metals (Lead, Mercury, etc.). Product must meet US EPA, 40 CFR 503 regulations.
- f pH: pH shall be between 5.5 and 8.
- g Visible Contaminants: compost shall be relatively free of inert ingredients, including glass, plastic and paper, < 0.1 % by weight or volume.
- h Moisture Content shall be between 35% - 55% of dry solids.
- i Organic Matter Content: 50% - 60% by dry wt. preferred, 30-70% acceptable.
- j Carbon and Nitrogen Ratio: C:N < 20:1.

- k Stability/Maturity: shall have a dark brown color and a soil-like odor. Compost exhibiting a sour or putrid smell, containing recognizable grass or leaves, or is hot (120F) upon delivery or rewetting is not acceptable.
 - l Weed seed/pathogen destruction: provide proof of process to further reduce pathogens (PFRP). For example, turned windrows must reach min. 55C for 15 days with at least 5 turnings during that period.
- 1.8 Retention/Bioswale Soil Mix: Soil mix shall have a minimum percolation rate of 5 - 10" per hour and be amended per Soil and Plant lab test results. Depth of soil shall be as specified on the Civil Engineer plans. Mix shall be Terravida by TMT or approved equal, 60-70% sand, 30-40% compost mix.
- 1.9 Fertilizer:
 - 1.9.01 Shrubs and trees:
 - a 21 gram tablet 20N-10P-5K slow release fertilizer tablets as manufactured by Agriform or approved equal. Apply according to Manufacturer's instructions and as follows:
 - i 36" Box shall receive 36 tablets
 - ii 24" Box shall receive 24 tablets
 - iii 15 Gallon shall receive 10 tablets
 - iv 5 Gallon shall receive 3 tablets
 - v 1&2 Gallon shall receive 2 tablets
 - b Starting one month after planting, on a monthly basis until start of maintenance Period, apply 12N-8P-16K fertilizer 7 lbs. per 1,000 square feet.

2. TOP MULCH

- 2.1 Recycled Pro-Chip, San Jose Blend, red or black. Available from Earth Tones Mulch, 1-800-536-6702, or approved equal.

3. GROUNDCOVERS, TREES, AND SHRUBS

- 3.1 All plant materials shall be nursery grown in accordance with the best known horticulture practices and under climatic conditions similar to those in the locality of the project. Container stock shall have grown in the containers in which delivered for at least six (6) months, but not over two years. No container plants that have cracked or broken balls of earth when taken from container shall be planted except upon special approval by Owner's Representative.
- 3.2 Roots to be healthy and extend to the bottoms and sides the container with no signs of restriction due to kinked, circular or distorted growth or deformed or circling roots at the liner stage. Rooting to be extensive enough to hold the rootball together during planting, but not as dense as to discourage root establishment into surrounding soils. No plants with roots that have encircled themselves will be accepted. In case of any unsatisfactory root system, a total group of plants may be rejected.
- 3.3 Plants shall be vigorous and shall have a normal habit of growth. Plants shall be free of damage by insects, pests, diseases or wind; burns from insecticides or fertilizer; and

stunted growth due to lack of water, lack of food, diseases, or other causes. Plants shall be in conformity with the sizes shown on the drawings.

3.4 Trees: Unless otherwise specified, tree trunks shall be straight with leader intact, undamaged, and uncut. All old abrasions and cuts are acceptable only if completely callused over.

3.5 Quantities: Quantities necessary to complete the work as shown on the drawings shall be furnished.

4. TREE SUPPORT POLES

4.1 Peeled, lodge pole pine logs, treated with Chemonite or ACQ or approved equal, clean, smooth, new, and sized as follows:

4.1.01 Three inch (3") diameter by ten (10') long for trees greater than 8 feet high and 1 inch caliper.

5. TREE TIES

5.1 Flexible strap, 24 inch minimum length without sharp edges adjacent to trunk, V.I.T. cinch-ti, or approved equal.

6. WATER SOURCE

6.1 Water source shall be provided by City. Contractor shall provide transport as required.

7. ROOT CONTROL BARRIERS

7.1 Root barrier CP 24-2, min. thickness .080", Century Products (714) 632-7083. Root barrier shall be used on all trees 5' or closer to pavement, utilities, curbs, etc. Or approved equal.

8. PRE-EMERGENCE WEED KILLER

8.1 Clean non-staining as recommended by a licensed pest control specialist and as approved by Owner's Representative in compliance with the Owner's Representative's Integrated Pest Management Policy.

I. EXECUTION

1. SURFACE CONDITIONS

1.1 Inspections by the Landscape Contractor:

1.1.01 Before proceeding with the work: Carefully inspect all areas and verify all dimensions and quantities.

- 1.1.02 In the event of discrepancy, immediately notify the Owner's Representative. Do not proceed with this installation in areas of discrepancies until all such discrepancies have been fully resolved.
- 1.1.03 Planting operations shall be performed only during periods when beneficial results can be obtained. When excessive moisture or other unsatisfactory conditions prevail, the work shall be stopped until conditions are satisfactory.
- 1.1.04 Inspect trees, shrubs and ground cover plants for injury, insect infestations, and proper pruning.
- 1.1.05 General contractor shall coordinate rough grading of site to ensure the Landscape Contractor shall receive all planting areas graded to ± 0.10 ft. of finish grades shown on the Drawings. Allow for depth of soil amendments and mulch in determining the difference between finished subgrade in groundcover and shrub beds. Verify that subgrades are not compacted. Do not proceed until detrimental conditions are corrected. Contractor shall take precautions during the excavation of all planting areas to not undermine or damage all adjacent pavements, footings and their associated subgrades.

2. FIELD QUALITY CONTROL / INSPECTIONS

- 2.1 Progress observations: In addition to the installation observations specified below, the Owner's Representative may make periodic progress observations.
- 2.2 Installation observations: Request at least 4 working days in advance:
 - 2.2.01 Observation of finish grading.
 - 2.2.02 Observation of plant material upon delivery to site.
 - 2.2.03 Observation of layout and placement of plant material at time of planting.
 - 2.2.04 Observation of any planting drainage problems, as identified by Contractor.

The above shall be considered check points and the Contractor shall only proceed with the work after the Owner's Representative has visited the site and determined that the work is proceeding satisfactorily.

- 2.3 Maintenance Observations: For the purpose of establishing the start of Maintenance Period and observing completion of the Work of this Section through Final Acceptance. Request at least 7 working days in advance:
 - 2.3.01 Observation for Maintenance Period commencement.
 - 2.3.02 Observation for Final Acceptance.

3. REVIEW AND ACCEPTANCE OF PLANT MATERIAL

- 3.1 Upon plant delivery, arrange material so that canopies or branch tips are not touching so that Owner's Representative can review plant material at project site.
- 3.2 Do not install material that has not been reviewed and accepted by Owner's Representative.
- 3.3 Arrange and pay for permits and inspections required for delivery of plant material.

4. FINE GRADING AND SOIL PREPARATION

4.1 General Fine Grading and Soil Preparation

- 4.1.01 The Contractor shall prepare the site for landscaping. In the areas designated for landscaping on the plans, he shall inspect planting areas and remove all base rock and other foreign material.
- 4.1.02 Rip in two directions all planting areas full depth of compacted fill (to a minimum of 12 inches) into undisturbed native soil prior to backfilling. Uniformly distribute and spread planting soil backfill in planting areas in layers not to exceed 18" and compact to a maximum of 85% relative compaction.
- 4.1.03 When the planting soil differs in clay and silt content from the subsoil it is to be placed upon, install a 4-inch thick lift of planting soil on the subgrade and rototill into the subgrade 6 inches deep before installing the remaining required planting soil.
- 4.1.04 Do not work planting soil in a wet or muddy condition or dump or spread in areas where subgrade is not in proper condition.
- 4.1.05 Water settling, puddling, and jetting of fill and backfill materials, as a compaction method is not acceptable.
- 4.1.06 Maintain moisture content of materials during compaction operations within required moisture range to obtain indicated compaction density.

4.2 The Contractor shall alleviate compacted soils before planting, for all landscaped areas that cannot be protected during construction.

- 4.2.01 Scarification: Scarify all planting areas prior to fine grading in order to ensure relative compaction of 85% or less. Any planting areas which become compacted in excess of 85% due to construction activities shall be thoroughly cross-ripped to the maximum depth feasible to alleviate that condition, taking care to avoid all existing drainage and subsurface utility lines. See plans.
- 4.2.02 Scarification of any planting area that cannot be accomplished with a tractor shall be accomplished by an alternative method approved by the Owner's Representative to the specified depth to ensure proper drainage.

4.3 Drag to a smooth, even surface. Grade to form all swales, pitch to catch basins, streets, curb, etc. to ensure uniform surface drainage. Areas requiring grading include adjacent transition areas that shall be uniformly level or sloped between finish elevations. Provide surface drainage of planted area. Correct drainage conditions that may be detrimental to the growth of plant material or which will result in excessive retention of water in tree pits. Minimum slope in landscape areas shall be two percent (2%) or as shown on drawings. Slope away from building.

4.4 Cultivation and Placement of Amendment:

- 4.4.01 Hold finish grade and/or mulch surface in planting areas 1/2-inch below adjacent pavement surfaces, tops of curbs, manholes, etc.
- 4.4.02 Spread soil amendment, fertilizers and other additives evenly over installed and rough graded topsoil in all planting areas including turf, ground cover and shrub areas at the rates specified in the soils analysis report. For bid basis, use the following rates (Do not apply fertilizer to areas to be hydroseeded):
- 4.4.03 In areas to be planted with shrubs cultivate to a depth of 18". In turf and groundcover areas, cultivate soil to a depth of 8". Incorporate 6 cubic yards per 1000 square feet of organic amendment. Prior to planting incorporate to a depth of 6" the following fertilizers, per 1000 square feet:

- a 6N-20P-20K at 25 lbs/1000 sq. ft. or 6N-24P-24K at 15 lbs/1000 sq. ft.
- b Iron Sulfate: 2.5 lbs. per 1,000 square feet.
- c Soil Sulfur: 15 lbs per 1,000 square feet.
- d Agricultural Gypsum: 25 lbs per 1000 square feet

4.4.04 Areas within the driplines of existing trees shall be hand cultivated.

4.5 Soil Mix for Backfill of Shrubs, Trees and Ground Covers: The following ingredients shall be tumbled to achieve a homogeneous mix:

4.5.01 Organic amendment 1 cubic yard

4.5.02 Topsoil 3 cubic yards

4.6 Contractor to remove any lime treated soil from planting areas and over excavate for drainage prior to the placement of top soil and import soil backfill.

5. HANDLING OF PLANTS

5.1 Prevent damage to plant material. Lift and handle plants only from bottom of rootball.

5.2 Do not plant material that has not been reviewed by Owner's Representative upon delivery to the project site, or that has been rejected for any reason. Do not plant under unfavorable weather conditions.

5.3 The Contractor shall protect all utilities, vegetation, and structures during work.

5.4 Trees shall be located a minimum of 3' from walls, overheads, walks, headers, and other trees within the project. If conflicts arise between size of areas and plans, Contractor shall contact Owner's Representative for resolution. Failure to make such conflicts known to the Owner's Representative will result in Contractor's liability to relocate the materials.

6. SHRUBS AND TREES

6.1 Preparation:

6.1.01 Owner's Representative will review, for conformance to design intent, locations of all plants in the field prior to planting. Notify Owner's Representative and schedule layout review sufficiently in advance of planting to allow for review and adjustment without disrupting construction schedule.

6.1.02 Stake layout of trees in field before installing irrigation. Mark tree and shrub locations on site using stakes, gypsum or similar approved means and secure location approval by the Owner's Representative before plant holes are dug. Adjust as necessary prior to planting. Owner's Representative reserves the right to make minor adjustments in the layout of all plant material; adjust irrigation system as necessary.

6.2 Excavation:

6.2.01 Excavate container grown tree, shrub, groundcovers and vine pits as follows. If rocks, underground construction work, tree roots or other unknown obstructions are encountered in the excavation of plant holes; Owner's Representative may select alternate locations. Report all such conditions in writing to the Owner's Representative. Where locations cannot be changed, submit a written proposal and cost estimate for removing the obstructions to a depth of not less than 6 inches

below the required hole's depth. Obtain Owner's Representative's instructions prior to proceeding with the work affected.

<u>Excavation for</u>	<u>Width</u>	<u>Depth</u>
Boxed Trees 12"	Box + 24"	Box +
Canned Trees/Shrubs (15 gal) or larger 12"	Can + 24"	Can +
Canned Shrubs/Vines (2.5 to 5 gal) 8"	Can + 18"	Can +
Canned Shrubs/Grdcover/Vines (1 gal) 6"	Can + 12"	Can +

All plant pits shall be dug with vertical walls. The sides and bottoms of all planting pits shall be thoroughly scarified to ensure root penetration.

6.3 Percolation Testing:

- 6.3.01 Contractor shall verify water drainage of all planting pits with a percolation test prior to planting.
- 6.3.02 Fill full sized planting pit with water and observe in 24 hours.
- 6.3.03 Notify Owner's Representative if planting pit has not fully drained before proceeding with the planting operation for all areas not draining, and all soil conditions considered detrimental to growth of plant material. State condition, and proposal and cost estimate for correcting the condition.
- 6.3.04 Obtain Owner's Representative's instructions prior to proceeding with work affected.
- 6.3.05 Repeat drainage testing and correction of conditions until tests are passed.
- 6.3.06 Failure to perform drainage tests, or to notify Owner's Representative in writing of conditions specified above, renders Contractor responsible for all plant failure that occurs as a result of inadequate drainage or detrimental soil conditions, as determined by Owner's Representative.

6.4 Plants in Containers:

- 6.4.01 Plants shall be removed carefully from their containers after the containers have been cut on two sides minimum; fifteen-gallon containers shall be opened in three places. In the case of boxed plant specimens, the wood shall be removed at the sides and at the bottom of the box.
- 6.4.02 After removing plant material from its container, stimulate root growth by making four or five vertical cuts 1" deep around the circumference of the root ball.
- 6.4.03 Do not lift or handle plants by the top, stems, or trunk at any time. All plants shall be lifted in such a manner that the root ball is supported from the underside.
- 6.4.04 The Contractor shall check all plants for adequate root systems. If the root system is defective, he shall remove deficient plants from the site and replace them with new ones.

6.5 Planting:

- 6.5.01 Carefully remove and set plants and trees without damaging the rootball. Do not install plants or trees with damaged rootballs. Cutting or scoring of rootballs to be done only if species is known to be tolerant of such treatment. Superficially cut tolerant plants' edge roots vertically on three sides using a knife.

- 6.5.02 For trees remove sides of boxes after positioning the plant and partially backfilling.
- 6.5.03 Center plant in pit or trench over tamped mound.
- 6.5.04 Face for best effect.
- 6.5.05 Set plant plumb and hold rigidly in position.
- 6.5.06 All plants shall be set in the ground so that the root ball will be flush with the finish grade. All plants that settle below the finish grade within 30 days of acceptance of the work shall be replanted in the proper position. In case a total section of planting area settles, the Contractor shall lift the plants, import additional soil mix, regrade, and replant, at no additional cost to the Owner.
- 6.5.07 Backfill:
 - a Backfill plant holes with soil mix as specified, free from rocks, clods or lumpy material. Backfill native soil free of soil amendments under rootball and foot tamp to prevent settlement.
 - b Set plants in backfill with top of the rootball 2 inches above finished grade. Backfill remainder of hole and soak thoroughly by jetting with a hose and pipe section. Water backfill until saturated the full depth of the hole. Thoroughly water all plants immediately after planting, eliminating air pockets. Prevent erosion.
 - c The filled pit shall be flush with surrounding grade when complete.
- 6.5.08 When the plant pit has been approximately one half filled, place planting tablets according to the manufacturer's schedule and per Section 2.01 Subsection K Fertilizer, paragraph 2.
- 6.5.09 Build 6" high watering basin berms around trees and shrubs to drain through rootball. Basins are not required around trees in turf areas.
- 6.5.10 Apply post-planting fertilizer.
- 6.5.11 Planting operation for plants in raised concrete planters is same as above except that finish grade of soil mix shall be 1 1/2" below top of planter walls. Planters may be backfilled with excess topsoil up to the depth specified for plant pits above which backfill shall be soil mix.
- 6.5.12 Planting operations for plants in precast planters is the same as stated in paragraph 11 above. Fill entire planter with soil mix. Place planters as shown on planting plans.

7. GROUND COVER AREAS

- 7.1 Planting:
 - 7.1.01 Plant in neat, straight, parallel and staggered rows as indicated on plan. Plant first row one-half required ground cover spacing behind adjacent curbs, structures, or other plant bed limits. Plant ground cover to edge of water basins of adjacent trees and shrubs.
 - 7.1.02 Space plants equally and uniformly at spacing indicated on the Drawings, which are the maximum and in a triangular pattern.
 - 7.1.03 Plant pits shall be sufficiently large so that the root can be freely suspended in the pit. After backfilling the pit, firm the soil so that there will be no air space around the roots.
 - 7.1.04 Apply post-planting fertilizer.
 - 7.1.05 Mulch all ground cover areas with 3" layer of mulch.

8. TOP MULCH

- 8.1 Except where rock mulch is required, mulch all shrub and ground cover areas with organic mulch to a 3 inch depth. Mulch ring at trees in turf areas to be 3 foot diameter for up to 36 inch box. Do not pile mulch around crowns of plants. Keep root crown free of mulch.

9. TREE STAKING

- 9.1 Stake trees as indicated on the Drawings. Drive stake until solid and remove excess stake protruding above top tree tie to prevent rubbing against branches. Allow 1 to 3 inches sway in trunk or branches; do not pull tight.
- 9.2 Tying: Find the proper support height by holding the trunk in one hand and pulling the top to one side and releasing it. The lowest height, at which the trunk will return to the upright position when the top is released, is the height at which to attach tree ties.

10. ROOT GUARD

- 10.1 Install as detailed and as specified below. If not shown, install in accordance with manufacturer's recommendations. Excavate an additional 12 inches below the proposed bottom edge of tree root barrier, then compact this space with the original excavation materials. Install the panels so that the vertical root deflecting ribs on the panels face inward, toward the root ball. The double top edge of the barrier should be positioned flush with finished grade. Install root barrier as indicated and at locations on drawings.
- 10.2 Install root control barrier for all trees located within 5 feet-0 inches of paved areas, in accordance with manufacturer's recommendations.
- 10.3 Root Barrier shall be installed in a linear fashion and shall never circle a tree.

11. WATERING

- 11.1 Water all trees, shrubs and ground cover immediately after planting. Apply water to all plants as often and in sufficient amount as conditions may require to keep the plants in a healthy vigorous growing condition until completion of the Contract. Do supplemental hand watering of trees and shrubs during the first 3 weeks of plant establishment as necessary.

12. CLEAN UP

- 12.1 Keep all areas of work clean and neat at all times. Upon completion of planting, all cans, boxes, and other debris that is a part of the planting operation shall be removed from the site.
- 12.2 All pavements shall be washed off, and site shall be left in an absolutely clean condition. All planting areas shall be cultivated and weed free before final inspection. Clean-up operations shall take place throughout the course of work so that walks and drives are clean at all time.

13. PRE-MAINTENANCE / PLANT ESTABLISHMENT PERIOD REVIEW AND APPROVAL OF PLANTING

- 13.1 Notify the Owner's Representative a minimum of five (5) days prior to requested Punch List and for Final Acceptance Review. Before the reviews, complete the following:
- 13.1.01 Complete all work per Specifications and Plans.
 - 13.1.02 Present all planted areas neat and clean with all weeds removed and all plants installed and appearing healthy.
 - 13.1.03 Plumb all tree stakes.
 - 13.1.04 Settlement: Reset plants that have shift or settled.
- 13.2 Punchlist Inspection:
- 13.2.01 At this time the Contractor shall have completed all phases of the Plans and Specifications for planting and irrigation. Any discrepancies shall be noted at that time and the Contractor shall make appropriate corrections before the Final Acceptance of the work and the beginning of Maintenance Period is established.
 - 13.2.02 No partial approvals will be given.
- 13.3 Final Acceptance
- 13.3.01 Should it be determined at the Final Acceptance visit that any punchlist item is incomplete, any further review of the site will be terminated until all items are guaranteed, in writing, to be complete by the Contractor. The cost of additional site visits by the Owner's Representative to verify completion of work shall be paid for by the Contractor.

14. PLANT ESTABLISHMENT MAINTENANCE PERIOD

- 14.1 The planting establishment maintenance period required shall be 120 calendar days after all planting is complete and installation approved.
- 14.2 Maintenance period shall not start until all elements of construction, planting, and irrigation for the entire project are complete. Project will not be segmented into maintenance phases, unless specifically authorized in writing by the Owner's authorized representative.
- 14.3 A longer plant establishment – maintenance period may be required if the turf is not thick, vigorous and even, or if the plant material is not acceptably maintained during the maintenance period. The maintenance period may be suspended at any time upon written notice to the Contractor that the landscaping is not being acceptably maintained, and the day count suspended until the landscape is brought up to acceptable standards as determined by the Owner's Representative.
- 14.4 Contractor shall furnish all labor, material, equipment, and services required to maintain the landscape in a healthy and attractive condition for a period of 120 days.
- 14.5 Maintenance shall include fertilization, watering, insect and disease control, weed control, weekly trash removal, mulching, restaking trees, tightening of guys, resetting plants to proper grades or upright position, and restoration of watering basins.
- 14.6 The Contractor's maintenance period will be extended if the provisions required within the plans and specifications are not filled.

14.7 General Requirements:

- 14.7.01 Keep all walks and paved areas clean. Keep the site clear of debris resulting from landscape work or maintenance.
- 14.7.02 Repair all damaged planted areas, and replace plants and reseed or resod grass immediately upon discovery of damage or loss.
- 14.7.03 Check sprinkler system at each watering; adjust coverage and clean heads immediately. Adjust timing of sprinkler controller to prevent flooding.
- 14.7.04 Keep Contract area free from weeds by cultivating, hoeing or hand pulling. Use of chemical weed killers will not relieve the Contractor of the responsibility of keeping areas free of weeds over 1-inch high at all times.
- 14.7.05 Settlement: Reset plants that shift or settle before end of maintenance period. Crowns of trees shall be at the following minimum height above surrounding finish grade at end of maintenance period: 24 inch box and smaller - 2 inches.
- 14.7.06 Protect all areas against damage, including erosion and trespass, and provide proper safeguards. Maintain and keep all temporary barriers erected to prevent trespass.

14.8 Tree, Shrub and Ground Cover Maintenance:

- 14.8.01 Maintain during the entire establishment period by regular watering, cultivating, weeding, repair of stakes and ties, and spraying for insect pests. Prune when requested by the Owner's Representative.
- 14.8.02 Keep watering basins in good condition and weed-free at all times.
- 14.8.03 Replace all damaged, unhealthy or dead trees, shrubs, vines and ground covers with new stock immediately, size as indicated on the drawings.

14.9 Watering:

- 14.9.01 All plants shall be kept watered as often as it is necessary to keep them in optimum, vigorous growth. The turf shall, at no time, show a lack of fresh green color or a loss of resilience due to lack of water. Watering shall be done preferably during the early morning hours.
- 14.9.02 Water shall be controlled so that there will be no excessive run-off, ponding, or overwatering.

14.10 Root Growth: Periodically the Contractor shall check the progress of the root growth within the back fill area. As the root growth increases beyond the root ball, the frequency of watering shall be reduced so that the roots are encouraged to grow to a lower soil depth. Watering then shall be less frequent, but applications shall be very slow and the Contractor shall assure himself that water does penetrate to the depth of the former plant pit.

14.11 Weed Control:

- 14.11.01 Weeds shall be kept under control, either by hand or by the application of herbicides designed for use on any type of weeds invading the planting areas.
- 14.11.02 All equipment used for herbicides shall be properly cleaned before it is used on this project. Herbicides shall be applied at temperatures recommended by the manufacturers. Herbicides shall not be used during windy or gusty days. All possible precautions shall be taken to protect vegetation which is susceptible to damage from the particular herbicides to be used.
- 14.11.03 The bases of all plants shall be kept completely free of weeds. Periodically, the base of the trees and shrubs shall be cultivated in order to allow better

penetration of water, but such cultivation shall be carefully done in order not to destroy surface roots.

14.12 Spraying:

14.12.01 All shrubs and trees shall be inspected at least twice a month during the growing period to determine the need for spraying to control insect damage, fungus development or any other disease that might be attacking the plants. Preventative spraying shall be done only with the approval of the Owner's Representative.

14.12.02 Operators of spray equipment shall take all reasonable precautions to protect themselves, other people and buildings from spray. The Contractor shall have all permits and licenses required for such an operation. Where applicable, dormant spray shall be applied to shrubs and trees during the winter period.

14.12.03 All equipment shall be properly washed before and after use.

14.12.04 No spraying shall take place during windy or gusty days.

14.13 Staking: Stakes and guys shall be inspected a minimum of two times a month to assure that the wires and ties are tight and no damage has occurred to the tree trunk or branches.

14.14 Fertilizing:

14.14.01 Upon approval and after submitting fertilizer delivery tags, top dress all turf and ground cover areas by broad-casting 12-8-16 fertilizer at the rate of 7 lbs. per 1,000 square feet evenly throughout, and reapply every forty-five (45) days until acceptable or as appropriate to prevailing climatic conditions and type of plant or turf grass.

14.14.02 Apply ammonium sulfate fertilizer as necessary to maintain vigorous, green grass between fertilizing mentioned above.

14.15 Litter:

14.15.01 The Contractor shall remove promptly after pruning, trimming, and weeding or other work required under the contract, all debris generated by his performance of the work. Immediately after working in the areas of public walks, driveways or paved areas, they shall be vacuumed clean with suitable equipment. All areas covered by this contract shall be kept free of the following items: bottles, cans, paper cardboard or metallic items. Common debris and litter shall be disposed of in an appropriate manner.

14.16 Pruning:

14.16.01 Prune as necessary to remove injured twigs and branches, dead wood, and suckers.

15. FINAL PLANTING REVIEW AND WRITTEN ACCEPTANCE (Turn Over Acceptance)

15.1 Final Review: At the conclusion of the planting establishment period, schedule a final review for Final Written Acceptance/Turn Over Acceptance. The conference shall include the Owner. Any discrepancies shall be noted at that time and the Contractor shall make appropriate corrections before the Final Written Acceptance of the work and the beginning of Guarantee Period is established.

15.2 Final Written Acceptance/Turn Over Inspection: A conference including the Owner shall be held at the completion of all project improvements and all corrective work. The Contractor shall continue to maintain the project at his own expense until all deficiencies

have been corrected. Once completed, the Contractor shall request the Owner's Representative and Owner to visit the site and approve the project as complete. The Owner's Representative will accept the landscape project in writing. The date of the Final Written Acceptance letter shall be the first day of the guarantee period.

- 15.3 Prior to either review, weed and rake all planted areas, repair plant basins, mow and edge turf, plumb tree stakes, clear the site of all debris and present in a neat, orderly manner.
- 15.4 Submit written notice requesting review at least 5 days before the anticipated review.

16. GUARANTEE AND REPLACEMENT

- 16.1 Guarantee period shall be extended for a period of one year from the date of Final Written Acceptance.
- 16.2 All plants shall be guaranteed to be alive and healthy as determined by the Owner's Representative at the end of the guarantee period.
- 16.3 Plant materials supplied by Owner shall be under similar warranty against defective workmanship during the planting operations. Plant material exhibiting conditions which are determined by the Owner's Representative as being unacceptable, due to workmanship by the Contractor, shall be replaced at no additional cost to the Owner.
- 16.4 The Contractor shall replace, in accordance with the Drawings and Specifications throughout the guarantee period, any plants that die, or in opinion of the Owner's Representative, are in an unhealthy or unsightly condition, and or have lost their natural shape due to dead branches, excessive pruning, inadequate or improper maintenance, or any other causes due to the Contractor's negligence. The Contractor shall not be held responsible for acts of vandalism occurring after the beginning of the guarantee period.

17 MEASUREMENT AND PAYMENT

- 17.1 **Landscape Planting (Bid Item #7.3)**, including but not limited to, soil prep, soil amendment, bio- retention soil, soil testing shall be paid for at the contract lump sum price. Prices shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all the work involved as shown on the plans and described in this Section, and no additional allowance will be made therefore.
- 17.2 **Landscape Maintenance Period (Bid Item #7.4)**, for the period of 120 calendar days after all planting is complete and installation approved, shall include but not be limited to, furnishing all labor, materials, planting, tools and equipment, and doing all the work involved as shown on the plans and described in this Section, and no additional allowance will be made therefore.

16.4 JOINT TRENCH, ELECTRICAL SERVICE AND GAS SERVICE

The following Joint Trench, Electrical Service and Gas Service Bid Summary information and Material lists shall be used in coordination with the Joint Trench, Electrical Service and Gas Service Plans prepared by Giacalone Design Services, Inc., including Sheets JT1, JT2, JT3, JT4, JT5, SL1, SL2, SL3, G1, G2, G3, E1, E2, INT2, and INT3.

The plans include detailed specifications for the joint trenching, electrical and gas systems. All work shall be included in the Bid to supply, install, and furnish complete systems that are fully functioning and operational.

The Bid Summary information and Material lists are for convenience to the Bidder. The information shall not be construed as being all-inclusive and therefore if additional material, parts, or supplies are required to provide a complete system, the Bidder shall include those items within their Bid as no additional costs during construction will be accepted.

16.4.01 Lighting & Electrical Systems

1. Description

The work described in this section shall be done in accordance with Section 86 of the 2010 edition of the State Standard Specifications, the 2010 edition of the State Standard Plans, the City Standard Plans and Specifications, the Construction Plans, and these Special provisions. In case of conflict between any of the contract documents, the document, which takes precedence over and shall be used in lieu of such conflicting portions, shall be as specified in Section 5-1 .04 of the State of California Standard Specifications.

2. COST BREAKDOWN

The Contractor shall furnish to the Engineer a cost break-down in accordance with these special provisions. The cost break-down shall be submitted to the Engineer for approval within 15 days after the contract has been approved. The sum of the amounts for the units of work listed in the cost breakdown for electrical work shall be equal to the contract lump sum price bid for the work. The approved cost break-down may be used to determine partial payments during the progress of the work and as the basis of calculation adjustment in compensation for the term or items of electrical work due to changes ordered by the Engineer.

The cost break-down for the contract items shall, at a minimum, include the following items:

- Foundation - each type
- Conduit - list by each size and installation method
- Pull boxes - each type
- Conductors - each size and type
- Luminaires

3. EQUIPMENT LIST AND DRAWINGS (86-1.03)

All product submittals shall be provided to the City. 7 calendar days prior to equipment and material orders. The Contractor shall submit to the City, for approval, all applicable submittals including, but not limited to, manufacturer's catalog cut sheets, wiring diagrams, material descriptions, and any other material relevant to the components included in these Special Provisions. These submittals shall be approved by the City, prior to any equipment deliveries to the City. Any equipment that is delivered to the City and rejected by the City shall be removed at the Contractor's expense.

4. STANDARDS, STEEL PEDESTALS AND POSTS (86-2.04)

The identification number shall be bead welded or stamped on the top of the base plate with minimum 1/2 inch characters in lieu of the riveted stamped identification number on the shaft above the handhole as described on the State Standard Plan ES-7M.

Any incorrectly drilled or otherwise damaged poles must be repaired by a certified welder to the manufacture's specifications at the expense of the contractor.

5. CONDUIT (86-2.05)

Runs shall have no more than 180° of bends, unless authorized by the Engineer, and shall enter the pull box vertically within $\pm 30^\circ$. When trenching for conduit installation, the trench shall be 6" wide and the top of the installed conduit shall be a minimum of 24 inches below finished grade in the street section. The minimum cover may be reduced to 18 inches below finished grade when crossing an existing utility in the street section. Where the asphalt concrete (AC) portion of the roadway cross section is greater than 24 inches in depth, the finished height of the conduit shall be two inches below the AC section. The trench shall be back filled with two inches of commercial grade sand over the conduit with the remainder being 2% red oxide concrete at 90% relative compaction. Conduit installed in non-paved areas shall be covered with conductive plastic underground warning tape six inches above the conduit.

Schedule 40 PVC shall be used throughout the project. The ends of conduits in pull boxes shall have Bell Bushings and be a minimum of two inches above the surface of the rock, and between eight and ten inches below the top of the pull box.

Loop stub outs shall be two-inch PVC with bell bushings on each end. All frontline loops shall be modified type "E" (See "Modified Type E Loop Detector Configuration" detail provided on the plans).

6. PULL BOXES (86-2.06)

6.01 MATERIALS (86-2.06A)

All pull boxes shall be of the Quazite "PG" style construction, or its approved equivalent prior to bid, and shall be gray in color. Pull box lids shall have a non-skid surface. The Number 6 (17" x 30") pull boxes shall be used throughout the project unless otherwise noted on the plans.

6.02 COVER MARKINGS (86-2.06B)

All pull boxes containing street lighting or service exclusively, shall be supplied with pull box lids that accurately reflect their contents. Pull box lids shall have the words "Traffic Signal," "Street Lighting," or "Service" on the lid, and shall not be of the bolt-down type. Lids shall be protected or reversed during the course of construction. All lids damaged or scuffed from construction shall be immediately rejected.

6.03 INSTALLATION AND USE (86-2.06C)

Pull boxes in non-paved or asphalt areas shall be constructed with a minimum 3-1/2 inch deep x 12 inch wide concrete apron. On all runs, the spacing of pull boxes shall not exceed 270 feet measured along the conduit.

A minimum of six inches of 3/4 inch rock shall be placed under each pull box. All pull boxes shall be inspected and approved prior to pulling any conductors.

7. CONDUCTOR (86-2.08)

8. WIRING (86-2.09)

8.1 INSTALLATION (86-2.09B)

Only poly-based lubricants shall be used. Each new conductor shall be installed with six feet of slack in each pull box. Conductors shall not be pulled into conduits until the pull boxes have been set to grade and 3/4 inch rock installed.

Conductors shall not be pulled into conduits unless a City representative is present to observe the operation. The end of all unused conductors and cables shall be sealed.

All conductors and cables shall be pulled through the conduits with the same wire pull. Slipping of conductors shall not be allowed. Only mule tape shall be used to pull conductors.

8.2 SPLICING (86-2.09D)

Conductors shall not be spliced in the pull box nearest the controller, but shall be continued to terminals in the cabinet. All conductors, including neutrals, shall be spliced by methods shown on State Standard Plan ES-13. Splices shall be soldered using 60-40 rosin core solder only. Splices shall be insulated by Method "B" as described on State Standard Plan ES-13.

9. BONDING OR GROUNDING (86-2.10)

The grounding jumper at each pole shall run continuous to the adjacent pull box attached to the bond wire using Nico Type, or equivalent, compression connector and be soldered with 60-40 rosin core solder. All grounding wire shall be No. 8 solid copper wire.

10. SERVICE (86-2.11)

The Contractor shall coordinate with Pacific Gas and Electric Company for any necessary service Installation. Any fees and costs required by the utility company shall be borne by the City.

Contact Customer Service:
Pacific Gas and Electric
1030 Detroit Avenue
Concord, CA 94519
(925) 674-6457

11. INDUCTION LUMINAIRES (86-6.01)

This specification applies to supply and install complete functional new Induction Luminaire

Lighting fixtures (cobra head style) on a City approved/ Contractor furnished aluminum pole or an existing PG&E wooden joint pole.

11.1 INDUCTION EQUIPMENT

- The induction luminaire lighting fixtures shall be a completely new integrated system with lamp, ballast cobra head, flat lens and all required accessories to be fully functional.
- The lamp wattages shall be as shown on the plans or as described on the specifications.
- Power factor shall be .98
- Total Harmonic Distortion (THO) shall be less than 10%.
- The lamps shall be rated to last 100,000 hrs.
- The Kelvin color temperature for full spectrum lighting shall be between the ranges of 4700 and 5000K.
- The color rendering index shall be minimum 85.
- The lumens per watt shall be minimum 95.
- The range of operating temperature shall be between -31 degree farenheight and 194 degree farenheight.
- The voltage shall be 120v to 277v multi-volt.
- Lumen degradation: shall maintain 70% at 60,000 hours.
- Where specified on the plans, luminaire lighting fixtures shall include house-side shields provided by the manufacturer.

11.2 WARRANTY

- Each induction lighting equipment unit shall be warranted for a full (10) years from the date of delivery to the City yard. This includes all associated fixtures. The vendor shall be responsible for replace or repair of any defective part of the induction lighting fixture for the entire period of the warranty.

11.3 PHOTO ELECTRIC CONTROLS

Photoelectric control shall be Type IV weatherproof single voltage photoelectric relay with instant *on/off* twist lock receptacle integral with the luminaire head rated at 120 volts, 2.6 fc turn on level, and 2160 joules surge protection with a 12 year service life.

11.4 CITY STREET LIGHTS

All street light poles and arms shall be aluminum. Streetlight identification numerals identified on the plans shall be installed per detail Streetlighting_#1 and Streetlighting_#3.

All luminaires shall be fused in the pull boxes with weatherproof in-line break away fuse holder with 10 amp fuse. The wire proceeding up the street light pole shall be # 10 gauge solid THHN wire. All grounds shall be #8 solid copper. All cable shall be A.W.G. #8 (or larger according to the design load), stranded copper, type THHN or approved equal. The pull box and streetlight pole shall be self-contained per "Typical Pull Box Foundation Cap Detail" Streetlighting_#1. All splices shall be crimped and soldered with 60-40 rosin core solder. If there is more than one streetlight on a circuit, they shall be bonded. All pull boxes for streetlights shall be #5 unless otherwise specified.

All streetlight poles shall be installed at least 30" from the face of curb directly over the roadway. Location of new street light poles shall be approved by City staff prior to installation.

12. QUALITY ASSURANCE

The Contractor will be given one "punch list" for the contract to be completed within 30 calendar days. This will include a "compliance recheck" of the punch list. If the compliance recheck is performed, and it is found that the Contractor has not completed the punch list, the contractor shall receive an additional 15 calendar days to complete the list. The cost of subsequent compliance rechecks will be deducted from any monies due, or which may become due the Contractor.

13. TECHNICAL ASSISTANCE & BACK-UP SERVICES

The manufacturer's representative shall provide the City with a California telephone number for the ordering of replacement parts that are required and for providing technical advice to City personnel. The manufacturer shall have on hand at this number a complete file of the City's equipment, including all serial numbers pertinent to this project.

The manufacturer shall have available at the telephone number a person with competence in parts, nomenclature and functional characteristics of the City's signal controller equipment. This person shall be able to provide descriptions, part numbers, prices and availability of the City's requirements. A fully qualified electronics technician with the capacity to expertly advise on all matters relating to the City's equipment shall be available immediately, or by return telephone call within 24 hours (normal work days only, holidays and weekends excepted).

There shall be no charge to the City for any advice or information provided in this matter.

14. WORKMANSHIP

All facilities shall be installed in a professional and workmanlike manner. Any portion of the signal system, which is not installed in a professional manner, shall be removed and reinstalled correctly to the satisfaction of the Engineer.

15. MEASUREMENT AND PAYMENT

Payment. Payment for Joint Trench, Electrical Service, and Gas Service shall be at the contract price per quantities measured and shall be considered full compensation for all labor, materials, tools, equipment, and incidentals to do all the work involved. The quantities will be measured as follows:

- F. Joint Trench (Trench Backfilling) at lump sum contract price **(Bid Item #8.1)**.
- G. Vaults, Slice Boxes (Excavate Only) at lump sum contract price **(Bid Item #8.2)**.
- H. Vaults, Splice Boxes (Supply and Install) lump sum contract price **(Bid Item #8.3)**.
- I. Conduits (Supply and Install) at lump sum contract price **(Bid Item #8.4)**.
- J. Electrical System at lump sum contract price **(Bid Item #8.5)**.
- K. Gas System at lump sum contract price **(Bid Item #8.6)**.
- L. Street Lighting at lump sum contract price **(Bid Item #8.7)**.

All lump sum quantities are below:

Bid Recap

I. Trenching	_____
II. Vaults, Splice Boxes (Excavate Only)	_____
III. Vaults, Splice Boxes (Supply & Install)	_____
IV. Conduits (Supply & Install)	_____
V. Gas System	_____
VI. Street Lighting	_____
Total Bid	_____

SPECIAL INSTRUCTIONS:

Contractor is responsible for complete coordination with all utility companies from initiation of construction through complete installation of all joint trench facilities.

Retaining walls and protective bollards if required are to be installed as directed in the field by PG&E at the Developers expense.

Plan Set Approval Status

Job#: 15-069

<u>PLAN</u>	<u>DATE OF PLANS</u>	<u>STATUS</u>
Joint Trench Composite	6/1/2016	FS
Street Light Plans	06/01/16	NA
Gas Plans & MST's	01/22/16	ANS
Electric Plans & MST's	05/13/16	A
Phone Plan	08/24/15	INTENT REPLY
CATV Plan	06/24/16	INTENT REPLY
City Fiber Plan	03/15/16	INTENT REPLY

INSTRUCTIONS TO BIDDERS:

PLANS ARE PRELIMINARY AND NOT YET APPROVED BY PG&E.

UNIT PRICES WILL PREVAIL IF CHANGES OCCUR.

If there are any questions or discrepancies regarding this package please
call Brett Fullington at (925) 467-1740 Ext. 308

Legend

Approved = A

Approved Not Signed = ANS

Not Approved = NA

First Submittal = FS

Second Submittal = SS

Third Submittal = TS

I. TRENCHING & BACKFILL:

() = Trenching Section Designation

<u>Description</u>	<u>Quantity</u>		<u>Unit Price</u>	<u>Extension</u>
(A-1) 24" x 55"	6	LF		
(A-3) 30" x 55"	412	LF		
(D-1) 12" x 55"	11	LF		
(F-1) 12" x 55"	28	LF		
(H-1) 12" x 45"	33	LF		
(I) 12" x 31"	35	LF		
(V-1) 12" x 31"	64	LF		
(W-1) 12" x 29"	1,023	LF		
(X) 12" x 31"	10	LF		
<u>R20</u>				
(A-1) 24" x 55"	73	LF		
(A-3) 30" x 55"	369	LF		
(H-1) 12" x 45"	16	LF		
		LF		
4' x 4' Pit for gas tie-in	1	EA		
4' x 6' Pit for gas tie-in	1	EA		
Re-excavation for final utility tie-ins		EA	<u>Lump Sum</u>	
<u>TOTAL TRENCHING BACKFILL:</u>				

Contractor to become familiar with all existing site conditions. Contractor will include in trench unit prices any and all costs for remove and replace existing concrete, asphalt and or landscaping. Contractor will add 6" depth to trench when in pavement.

II. VAULTS & SPLICE BOXES: (EXCAVATE ONLY)

<u>Description</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Extension</u>
<u>A. ELECTRIC</u>			
3' x 5' x 3'6" Pri Splice Vault	1 EA		
4'6" x 8'6" x 6' Pri Splice Vault	1 EA		
4' x 6'6" x 5' Pri/Sec Splice Vault	3 EA		
<u>SUB TOTAL ELECTRIC</u>			
<u>B. TELEPHONE</u>			
Pedestal	EA		
24" x 36" x 30"	2 EA		
24" x 36" x 30" Fiber	3 EA		
36" x 60" x 48"	1 EA		
<u>SUB TOTAL TELEPHONE</u>			
<u>C. CATV</u>			
Pedestal	EA		
24" x 36" x 18"	3 EA		
<u>SUB TOTAL CATV</u>			
<u>TOTAL VAULTS & SPLICE BOXES: (EXCAVATE ONLY)</u>			

III. VAULTS & SPLICE BOXES: (SUPPLY & INSTALL)

<u>Description</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Extension</u>
<u>A. ELECTRIC</u>			
3' x 5' x 3'6" Pri Splice Vault	1 EA		
4'6" x 8'6" x 6' Pri Splice Vault	1 EA		
4' x 6'6" x 5' Pri/Sec Splice Vault	3 EA		
<u>SUB TOTAL ELECTRIC</u>			
<u>B. TELEPHONE</u>			
Pedestal	EA		
24" x 36" x 30"	2 EA		
24" x 36" x 30" Fiber	3 EA		
36" x 60" x 48"	1 EA		
<u>SUB TOTAL TELEPHONE</u>			
<u>C. CATV</u>			
By CATV			
<u>SUB TOTAL CATV</u>			
<u>TOTAL VAULTS & SPLICE BOXES: (SUPPLY & INSTALL)</u>			
NOT INCLUDED IN THE ELECTRICAL SYSTEM			

NOTES: Include cost for Transformer Vault Remediation Detail, see sheet JT3.

IV. CONDUIT: (SUPPLY & INSTALL)

<u>Description</u>	<u>Quantity</u>		<u>Unit Price</u>	<u>Extension</u>
<u>A. ELECTRIC</u>				
3" DB 120 PVC with pull rope	30	LF		
4" DB 120 PVC with pull rope	730	LF		
6" DB 120 PVC with pull rope	790	LF		
<u>SUB TOTAL ELECTRIC</u>				
<u>B. TELEPHONE</u>				
4" Phone Conduit	1,710	LF		
2" Fiber Conduit	1,710	LF		
<u>SUB TOTAL TELEPHONE</u>				
<u>C. CATV</u>				
By CATV				
<u>SUB TOTAL CATV</u>				
<u>TOTAL CONDUIT: (SUPPLY & INSTALL)</u>				

V. GAS SYSTEM:

Complete, including pipe, locating wire, riser & fittings.

EXCLUDES: House service finals, meters, manifolds, regulators, house plumbing & meter room venting.

PG&E to make the "Hot" tie into the existing main.

LUMP SUM

NOTES: Refer to Gas Plans by GDSI.

VI. STREET LIGHTING BID:

<u>Description</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Extension</u>
<u>A. ELECTROLIERS</u>			
LED Post Top	6 EA		
<u>SUB TOTAL ELECTROLIERS</u>			
<u>B. SPLICE BOXES</u>			
State Type 3.5	9 EA		
<u>SUB TOTAL SPLICE BOXES</u>			
<u>C. CONDUIT</u>			
1.5" PVC Sch 40 Conduit-Conductor	1,025 LF		
<u>SUB TOTAL CONDUIT</u>			
<u>D. METERED PEDESTALS</u>			
<u>SUB TOTAL METERED PEDESTALS</u>			
<u>TOTAL STREET LIGHTING BID:</u>			

NOTES: Per City of San Pablo Standards & Specifications. Include tails with Conductor.

SPECIFICATIONS

TRENCHING SPECIFICATIONS:

CATV to place their own facilities. Contractor will coordinate their installations. Contractor to excavate any necessary bell holes and coordinate tie-ins.

CONDUIT SPECIFICATION:

Included temporary or permanent caps, sealing in transformers and boxes as required.

ELECTRIC SYSTEM:

Contractor to furnish and install all material, labor and equipment necessary for complete system based upon plans drawn by GDSI. Attached are job instructions and material summary to aid in obtaining quantities and code numbers. Contractor to make street light connections, tag all cable runs and "Hot-Pot" test entire system prior to PG&E energizing. PG&E to do "Hot" tie-ins.

GAS SYSTEM:

Contractor to furnish and install all material, labor and equipment necessary for complete system based upon plans drawn by GDSI. Included required pressure tests. Coordinate with local district gas inspector on type of service saddle required, i.e. "Service Tee" or "Multi Saddle" and for mechanical fittings. PG&E to do "Hot" tie-ins.

AS BUILTS:

Contractor to "Red Line" two (2) sets each of electric and gas drawings with the "As Built" information and forward to the developer after completion of the job.

WARRANTY

A. GAS & ELECTRIC SYSTEM:

Contractor shall be responsible for the repair or replacement at their expense of any part of their work that develops defects due to faulty material or workmanship within a period of one (1) year from the date of final acceptance by PG&E.

B. TRENCH:

Contractor shall guarantee that all trench material and trench workmanship shall be satisfactory for a period of two (2) year from the date of final acceptance by PG&E.

SPECIFICATIONS

General:

Prior to submitting their bid, the bidder shall make themselves familiar with the site work.
Improvement Plans by Kister, Stavio & Rei, Matt Rei, 510-222-4020, Matt@ksrinc.net

All work shall be installed in full accordance with the respective utility companies standard practices, for the City of San Pablo.

Nothing contained or omitted from GDSI drawings and attachments shall relieve the contractor of their responsibility to provide for a complete system that is acceptable to PG&E. Contractor must be familiar with PG&E specifications and construction practices.

The utility inspectors will have the final say as to their area of responsibility.
Contractor is responsible for any re-inspection fees necessitated by their work.
City of San Pablo/ Charles Ching reserves the right to reject any or all bids.

Utility Construction Consultant:

Giacalone Design Services, Inc.

GDSI Job # : 15-069

CONTACTS:

General Manager: Paul Giacalone - x 301

Project Manager: Brett Fullington - x 308

PHYSICAL ADDRESS :

5820 Stoneridge Mall Road, Suite 345

Pleasanton, CA 94588

(925) 467-1740